THE PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

PULP & PAPER

"the Cellulose Age"

APRIL 1952 VOL. 26-NO. 4

NEW LEADERS OF THE UNITED STATES PULP AND PAPER INDUSTRY

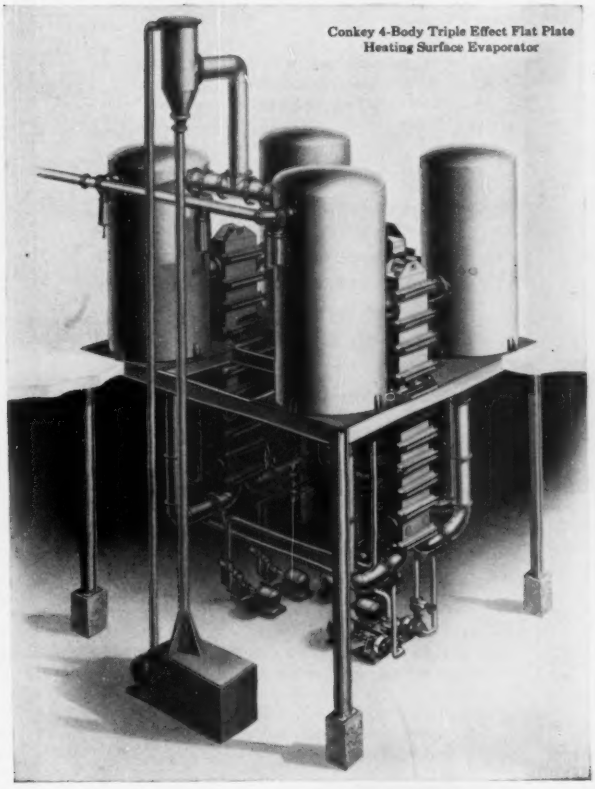
SYDNEY FERGUSON OF MEAD, New President of APPA — **DONALD S. LESLIE OF HAMMERMILL, New 1st Vice President of APPA**

This montage shows four of the many mills of their companies and affiliates:

MEAD'S ESCANABA, MICH., Mill (top left)
MACON KRAFT'S MACON, Ga., Mill (lower left)
HAMMERMILL'S ERIE, Pa., Mill (top right)
MEAD'S KINGSPORT, Tenn. Mill (lower right)

Features in this Issue: Paper Week—Wisconsin "Workshops"—New SemiChem Plant—Progress at Palatka—Southern Kraft Research

NO shut down time! stream pollution! scale removal costs!



Conkey 4-Body Triple Effect Flat Plate Heating Surface Evaporator

Conkey Flat Plate Heating Surface Evaporator *with Rosenblad Switching System**

The proven system for avoiding stream pollution by sulphite pulp mill waste liquors that proved so outstandingly successful in commercial installations all over Scandinavia, is now adapted for use in this country by General American. *In every instance* where a Rosenblad Switching System has been installed, shut down time *and* scale removal *costs have been practically eliminated!* The Rosenblad System utilizes the condensate wash as a descaling operation carried on during full capacity operation of the evaporator. Surfaces subjected to boiling liquor are periodically switched with those in contact with vapor and condensate to clean heating surfaces during normal continuous operation. *Every part* of the equipment is switched, consequently scale is washed away from pipe lines, valves and vessels . . . in addition to heating surfaces.

At present in this country . . . Rosenblad Switching Systems in Conkey Flat Plate Heating Surface Evaporators are being constructed for full scale commercial operations. *Write today for detailed bulletin.*

*Patents Applied For

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OFFICES IN PRINCIPAL CITIES

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Turbo-Mixers, Filters, Dewaterers, Dryers, Towers, Tanks, Bins, Pressure Vessels

PULP & PAPER
"The Cellulose Age"
PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRIES

A MILLER FREEMAN PUBLICATION

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An Editorial of Few Words

The U. S. Treasury's own figures tell all that needs to be told in the above editorial.

Copies of this chart are available from the Chamber of Commerce of the U. S., 1615 H St., Washington 6, D. C., at 75 cents per 100 copies or $5 per 1,000 copies.

A New Movement in This Industry

In this issue of PULP & PAPER, we bring our readers the first story of a new industrial movement, actually one that appears to be taking on the character of a new kind of crusade.

It is the story of the Wisconsin Workshops. Along with it, we report the developments at Paper Week in New York on a kindred problem—what are the best ways and means for this industry to genuinely reach the hearts and minds of *its two potentially most loyal and most powerful supporters:*

1. Its own employes.
2. Its own plant neighbors and fellow-townsmen.

Little known to the rest of the industry, the Wisconsin Workshops have been at work on this problem for over a year and a half. We feel that the wisest decision it made, right at the outset of its studies, was this is a problem that should be finally worked out right at the mill level. And the New York committee fell in line with this thinking by recommending that mills appoint their own "grass-roots" community relations representatives, in the mill towns. The job, we think, can undoubtedly be done best by men who live as fellow-workers and neighbors in each mill town.

PULP & PAPER magazine will endeavor to assist in a modest and entirely unofficial way, by reporting the good jobs that are done in mill towns.

Other Analysts Express Views

John W. Hill, president of Hill & Knowlton Co., public relations counsel for Reliance Electric & Engineering Co. and other prominent industries, thinks this is the hour of destiny for industry to step forward and reaffirm the moral, political and economic facts that have made America great. Scandals in high places, he says, have caused many persons to look for new spokesmen. Says Mr. Hill: "If industry doesn't act soon, it may find itself in a jostling, milling mob, unreasoning and leaderless, but moving inexorably down the road to ruin."

He quotes still another analyst as saying men today are looking for authority and reassurance from union leaders, Legion heads, sometimes clergymen or "noisy" political or social leaders.

Industry can produce leaders, too—*from the presidents to the foremen in the mill*—if they intelligently use the media available to reach their employes and their neighbors. And first of all, they must win their confidence by showing they are human and fair, not arrogant, bossy or grasping, as they are sterotyped in comic books and movies.

Couldn't it be even more important for industry to cultivate support among its employes and neighbors than the ephemeral friendships of politicians or pressure groups?

IN THIS ISSUE:

"COMPANY COMMUNICATIONS"—new approach to an old problem of industry with first story on "WISCONSIN'S WORKSHOPS" .....starts on Page 40
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PULP & PAPER circulates all over the world.
It is read in virtually every pulp and paper company office and mill throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand. It is read in many other offices and mills in Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Holland, Czechoslovakia, Italy, Spain, Switzerland, Soviet Russia, Poland, Yugoslavia, India, Pakistan, Israel, South Africa, China, Japan, Formosa, both near and far around the world, where pulp and paper are made.

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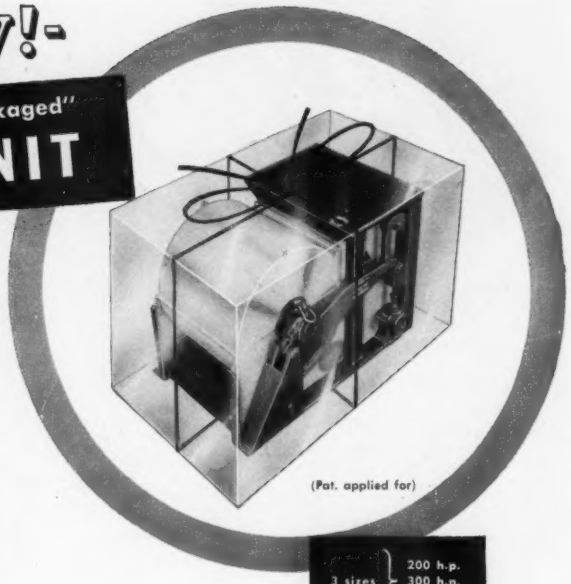
BEATING UNIT



Yes! — a completely pre-assembled Beating Unit . . . that produces better quality, more uniformly refined fibre, at up to 65% savings in power over conventional beaters.

Features: lower installation cost (no assembly in the mill), simpler floor construction, less floor space, lower maintenance — PLUS more refining capacity, greater flexibility of operation, more positive treatment of stock, and no possibility of untreated stock passing through the Beating Unit.

Available for Multibeater (continuous operation) or tub installation. Ask your Jones representative for details.

3 sizes { 200 h.p. 300 h.p. 400 h.p.

Jones

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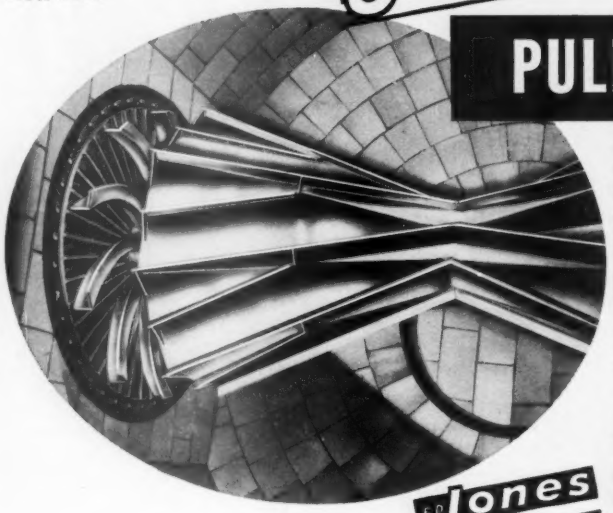
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

Rotor of No. 4 size Jones Pulp-Master, shown in tile tank installation in a leading midwestern mill. Capacity 4000 lbs. 6½% stock.

E.D. Jones

PULPING POWER



The rugged, one-piece fabricated rotor of the PULP-MASTER, placed well above the bottom of the tank, gives stock vigorous, continuous circulation — yet allows junk metal to drop to the tank bottom.

Its vanes force the stock outward, where the impellers rub and refine it against the fixed refining discs. Baled pulp, waste paper, machine broke — even glassine and wet strength — is completely disintegrated in 10 to 40 minutes.

Over 140 sold to date. Ask your Jones representative for details — or write for Bulletin 1019-B.

E.D. Jones **PULP-MASTER**

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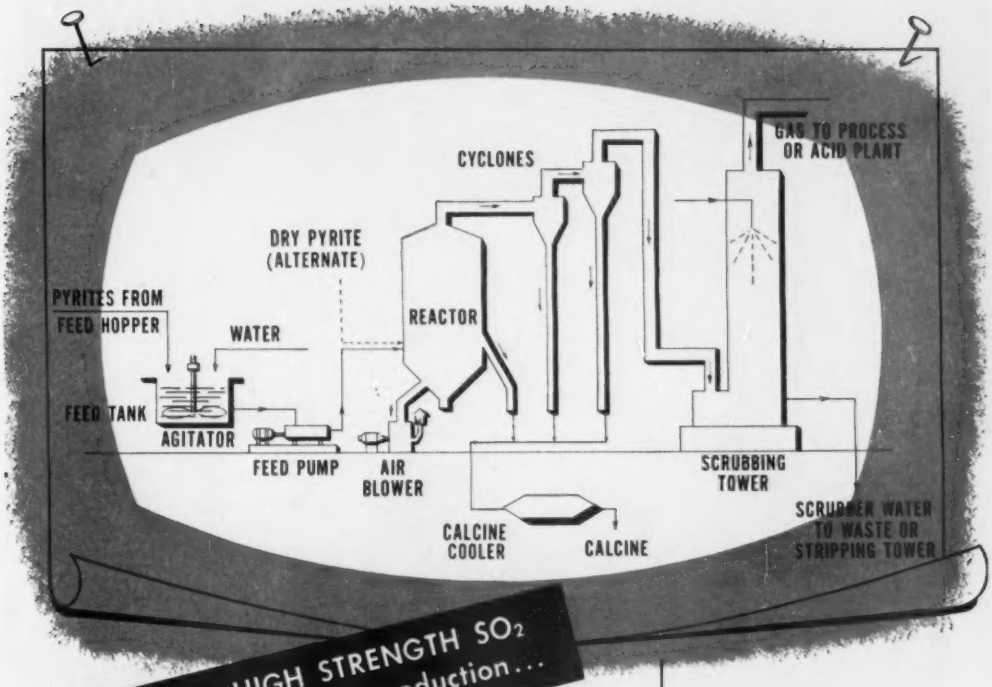

Now...HIGH STRENGTH SO_2 for sulphite pulp production...

Dorrco FluoSolids* System gives you 14-15% SO_2 from 48-50% pyrite 12-13% SO_2 from 35% pyrrhotite

Sulphuric acid manufacturers and all users of sulphur dioxide faced with a shortage of elemental sulphur are finding in FluoSolids an economically feasible means of tapping sulphides as an alternate source of SO_2. In sulphite pulp mills alone, eight Dorrco FluoSolids Systems are now being installed.

For detailed information about FluoSolids — a distinct departure from conventional roasters — ask for a copy of Dorrco Bulletin No. 7500. Just write to The Dorr Company, Stamford, Conn., or in Canada, The Dorr Company, 80 Richmond St. West, Toronto 1.

*FluoSolids is a trademark of The Dorr Company Reg. U.S. Pat. Off.

Facts on FluoSolids Systems for SO_2 Production...

Gas Strength will average 14-15% SO_2 dry basis from pyrite carrying 48-50% sulphur, and 12-13% from pyrrhotite carrying 35% sulphur.

Gas Cleaning Equipment is smaller than with conventional methods.

Feed can be relatively coarse — or can be wet.

Low Maintenance because no moving parts are exposed to high temperatures.

No Extraneous Fuel Needed once calcining temperature is reached.

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For full details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

Inserts show Shear-Cut Slitter Units

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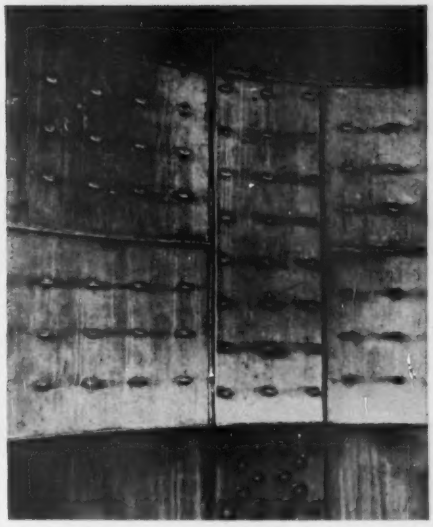
Inconel Patch Lengthens Digester Life



Corrosion-resisting Inconel patch, as installed in Penobscot Chemical Fibre Co.'s mild steel soda-pulping digester in Great Works, Maine.

Accelerated erosion and corrosion along the liquor line in several mild steel digesters caused trouble at Penobscot Chemical Fibre Co., in Great Works, Maine.

Penobscot decided to try experimental patches of corrosion-resisting metals along the affected upper course of one digester shell. If this plan worked, they knew they'd get longer service life from their digesters at only a fraction of the total replacement costs.

First, small pieces of Inconel® and two other metals were tested for corrosion resistance under operating conditions in the digester. On this basis Inconel was their choice.

Inconel not only showed superior corrosion and erosion resistance, but its coefficient of heat expansion closely matched that of steel — an advantage during the alternate heating and cooling of the production cycle.

The plan decided, the metal tests and selection completed . . . and the job of installation of the Inconel patch got under way.

The Portland Company of Portland, Maine, plug-welded 29" wide by 6' long strips in the wearing area of the digester. Test holes were drilled through the shell back of the lining so that if leaks developed the personnel would know about them. The Inconel plates and welding have been inspected by both the mill personnel and insurance company inspectors for signs of corrosion and erosion. To date, the Inconel plates and welding do not show any wear.

* * *

Perhaps you have a problem that an Inco Nickel Alloy might solve at a savings in dollars. Get more of the facts. Send for your copy of "Practical Solutions for Metal Problems in Pulp and Paper Mills." It's free, write today.

And remember, because Inconel is on extended delivery, it will pay you to anticipate your needs. Order well in advance, *always* giving necessary NPA ratings and complete end use information.

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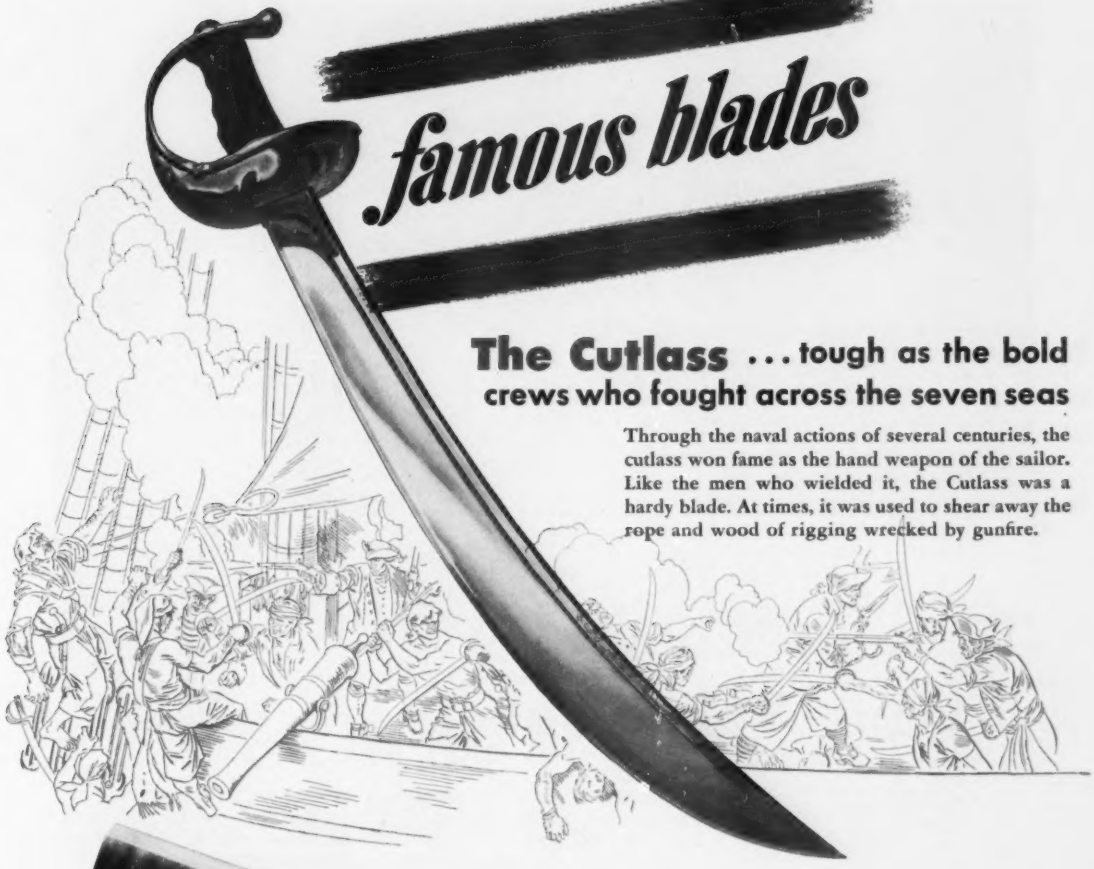
famous blades



The Cutlass ... tough as the bold crews who fought across the seven seas

Through the naval actions of several centuries, the cutlass won fame as the hand weapon of the sailor. Like the men who wielded it, the Cutlass was a hardy blade. At times, it was used to shear away the rope and wood of rigging wrecked by gunfire.

Heppenstall CHIPPER KNIVES can take it . . . they're tougher

Like the hardy cutlass, modern Chipper Knives made by Heppenstall are built to take it. Made from high quality, electric induction steels, these chipper knives show such production advantages as:

- ★ MORE HOURS BETWEEN GRINDS
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To be certain of consistent high quality and productivity—always specify Heppenstall.

Heppenstall—*the most dependable name in chipper knives*

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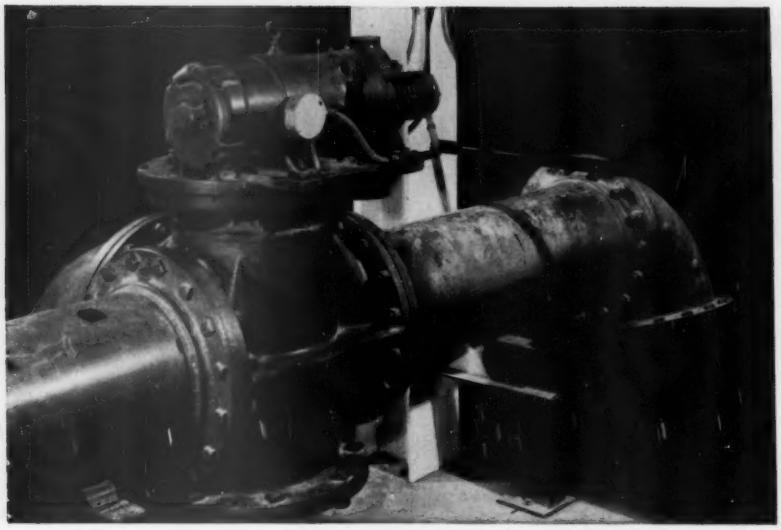
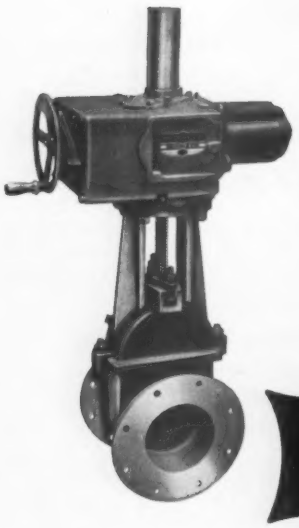


Time to Modernize Your Valve Set-up



Once you've installed electrified valves in your stock lines you're "blasting with atoms."

Shartle builds three types of valves for panel board operation—rotary—gates—slide.

The Shartle Hope type rotary features a top-suspended rotor that never sticks—cannot stick; valve shoulders free of pockets and areas in which stock might collect, dry and freeze the rotor. When you press a button or flip a switch you get action.

These valves are built in all required mill sizes—4″ to 22″—and with body and rotor of all cast-iron, or of required corrosion-resistant alloys.

Shartle also builds electrified gate and slide valves.

Also hand wheel, lever, and chain operated rotaries, hand wheel, pneumatic, lever or crane-operated gates and slides, etc.

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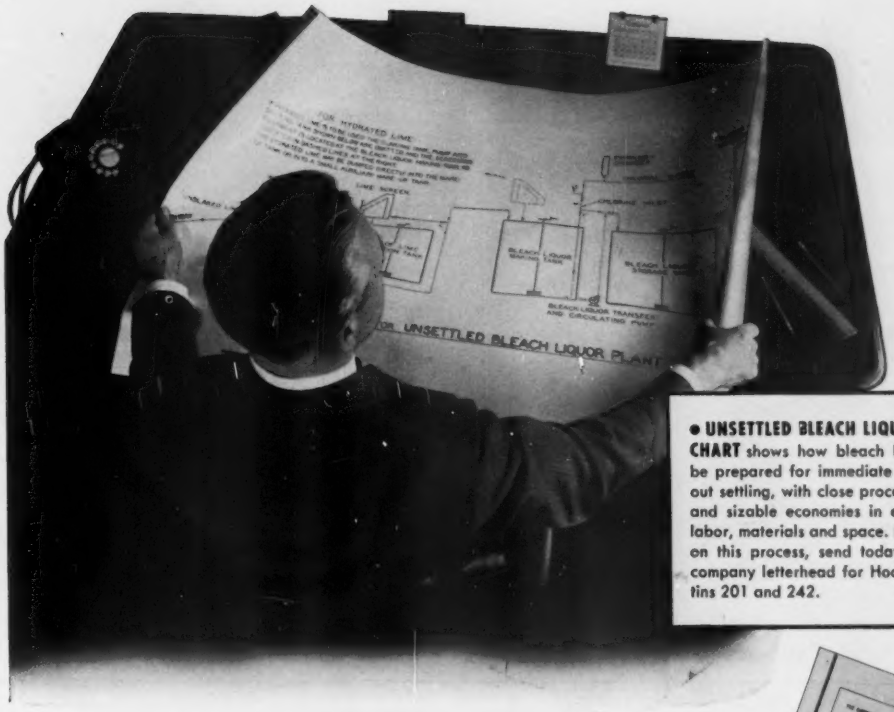

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Every shipment of Hooker Chlorine and Caustic is carefully checked, product-wise and package-wise, to insure reaching you in proper condition for immediate use. Watchful scheduling and point-to-point checking en route result in deliveries that closely fit your production needs.

Send today, on your business letterhead, for helpful literature on pulp and paper bleaching.

SEND FOR THIS HELPFUL BLEACHING DATA

Bulletin No.

201 Process and Equipment for Making Bleach Liquor for Use Without Settling
211 Chemistry of Bleaching Chemical Wood Pulps
214 What Do We Know About Bleaching?
236 Importance of pH and Catalysts in Bleaching Operations
242 Production and Use of Unsettled Bleach Liquor
243 Procedures and Brightness Grades in Bleaching Sulfate Pulps

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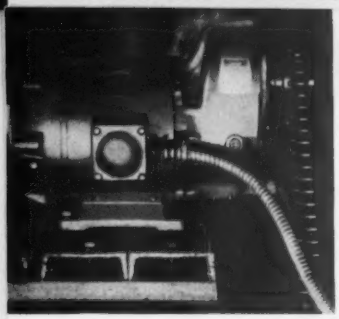

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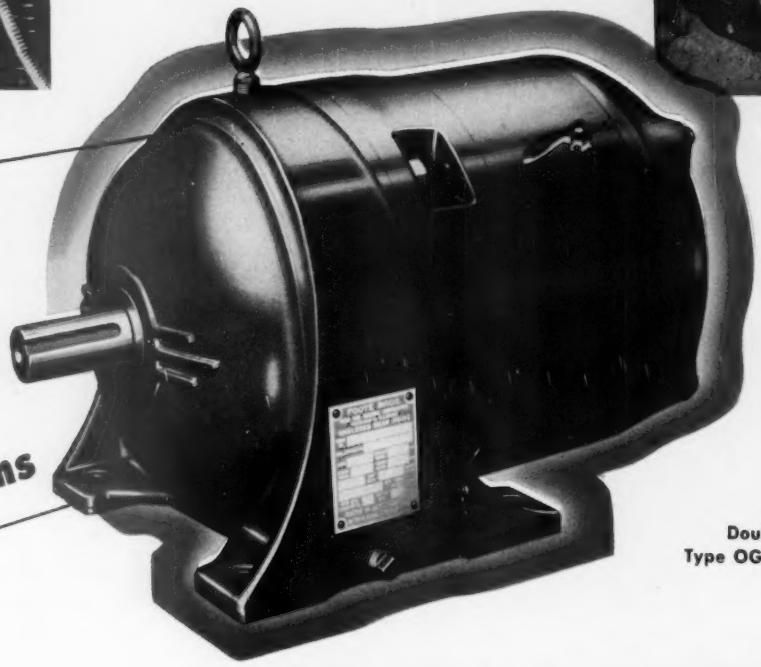
Triple Reduction Gearmotor

The Modern Solution to Your Drive Problems



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Type OGX 2-HP Gearmotor

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These Gearmotors save space, eliminate operating headaches, and greatly reduce maintenance costs. They are streamlined power units combining compactness, efficiency, and long life. Available in ratings of 1 to 150 HP with 40 HP and smaller units in all output speeds and AGMA classes in stock for immediate shipment.

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✓ **All types of motor enclosures** — Open, Drip-Proof; Splash-Proof; Enclosed, Non-Ventilated; Enclosed, Fan-Cooled; Explosion-Proof; also A. C. Wound Rotor, and Direct Current Motors.

✓ **Extra capacity ball and tapered roller bearings** throughout for trouble-free service under severest conditions.

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✓ **Quiet, vibrationless operation,** even under continuous reversing service. Tang-driven motor-shaft pinion provides quiet, vibrationless operation.

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GM-101

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YES **THEY CAN,** in spite of shortages and slow deliveries on many stainless materials.

For verification, see the picture at the right—a carload of *ESCO* stainless piping recently shipped to a large pulp mill. Piping is made up entirely of *ESCO*'s cast stainless fittings and Spuncast pipe.

This centrifugally cast pipe is produced in a wide variety of standard and special analyses, and in schedule 40 wall or heavier. It is superior in resistance to corrosion, in withstanding wear or abrasion, and in mechanical strength. And under present regulations . . .

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Also available are stainless castings, valves, digester fittings, etc.

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Typical wool showroom, where buyers make their selections.

Photographs courtesy of Wool Bureau, Inc.

Out Where Huyck Felts Begin

First, the fleece. From 1,500 classified types, buyers choose only those special wools that meet the exacting requirements of Huyck Felts. In the principal wool-growing countries of the world this discriminating selection goes on. For these must be just certain wools, rare and costly.

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This is the first, and only the first step in making the famous Huyck felts which for 82 years have rendered such essential service to the pulp and paper industry.

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Pacific Coast Representative: Pacific Coast Supply Co., Public Service Building, Portland, Ore., 343 Sansome St., San Francisco, Calif.

are you opening up sales opportunities?

You are if YOUR paper is made from Curlated pulp and has all of these *plus* properties . . .

1. Maximum Tearing Strength
2. Maximum Stretch
3. Maximum Bulk
4. Maximum Bending Properties
5. Maximum Cleanliness
6. Maximum Cross Directional Strength

Only obtainable by Curlation

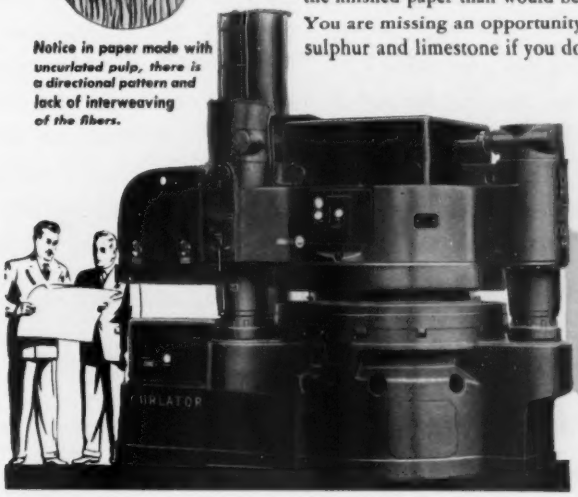
Yes, only Curlation can give your paper *all* these properties mechanically because Curlation not only changes the shape and diameter of fibers, but reduces fiber bundles and dirt. Curlator's patented rubbing and rolling process twists and flexes fibers under pressure . . . changes them permanently from straight to "curled." Thus more desirable properties are imparted to the finished paper than would be possible with straight (uncurlated) fibers. You are missing an opportunity to upgrade pulp, save on wood, coal, sulphur and limestone if you don't investigate Curlators.

WRITE *today for more detailed information.*

Let's look at **CURLATION . . .**

Notice that in paper made with Curlated pulp, the fibers are interlocked and lie in every possible direction.

Notice in paper made with uncurlated pulp, there is a directional pattern and lack of interweaving of the fibers.



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†T. M. Reg.—Curlator Corporation, Rochester, N. Y.

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Things are really humming these days at the Moore & White plant. Complete Fourdrinier and Cylinder machines *have* been built, *are* being built, and *will* be built—as fast as such mechanical mammoths *can* be built.

In the plants of some of the nation's leading paper and board manufacturers, recently built Moore & White machines are now in operation turning out the material needed to meet the zooming demand of business and industry—and doing it with the efficiency that spells profit.

Work in progress in the Moore & White plant today—on the machine tools and on the drawing boards—includes complete paper-making machines for new customers and for customers who have long known that there's no place like Moore & White for getting things done, big or small.

Whatever your need for paper-making machinery, drop your problem in our lap—if you can catch us sitting down long enough for that.

The MOORE & WHITE Company 15TH STREET AND LEHIGH AVENUE • PHILADELPHIA 32, PA.

CUSTOM-BUILT MACHINES FOR PAPER MAKERS

Let's be practical about precipitators

When a conventional precipitator is shut down for maintenance and inspection, valuable materials caught in the gas are discharged to the atmosphere by a by-pass system. This means a drop in recovery rates and an increase in operating costs. But Koppers solves this problem with a new design . . .

Koppers-Elex electrostatic precipitators assure maximum recovery with an efficient double-chamber design!

KOPPERS-ELEX electrostatic precipitators save you money two ways on recovery boiler applications. The first way is with maximum recovery. Successive collection zones can be separately energized which means higher voltages can be applied—with an increase in efficiency as a result.

PERFORMANCE GUARANTEED!

Koppers engineers protect your investment in an electrostatic precipitator by guaranteeing both the recovery or gas-cleaning efficiency and the residual content left in the gas after cleaning. Koppers-Elex electrostatic precipitators are designed, engineered, fabricated, erected and guaranteed under one contract by Koppers Company, Inc.

The second method is with Koppers double-chamber design. Instead of conventional by-pass systems, the dirty gas can be diverted through a single chamber while the other is shut down for inspection and maintenance. This means recovery continues with only a slight decrease in efficiency. As a result operating costs go down and recovery rates stay up.

In addition, operation is simplified by Koppers exclusive bottom drag scraper which does away with conventional hoppers. Dust is removed continuously—an important point where chemicals are to be re-used. Another feature is completely "packaged" mechanical or vacuum tube power packs which can be located in any convenient area in the plant.

IF YOU HAVE A GAS-CLEANING PROBLEM, write today and outline the details for us to review. There is no obligation. Just address your letter to: KOPPERS COMPANY, INC., *Precipitator Department*, 244 Scott Street, Baltimore 3, Maryland.

KOPPERS

Koppers-Elex ELECTROSTATIC PRECIPITATORS

They Set the Standard for Quality

These seals are stamped on all Brown Company Solka and Cellate pulps. They are your assurance of the finest quality pulps manufactured from wood cellulose—pulps that set the standard for quality in the industry. Here's why:

Brown Company pulps are made principally from its own vast timberlands of northern softwood and hardwood. This assures quality control and a dependable source of raw material.

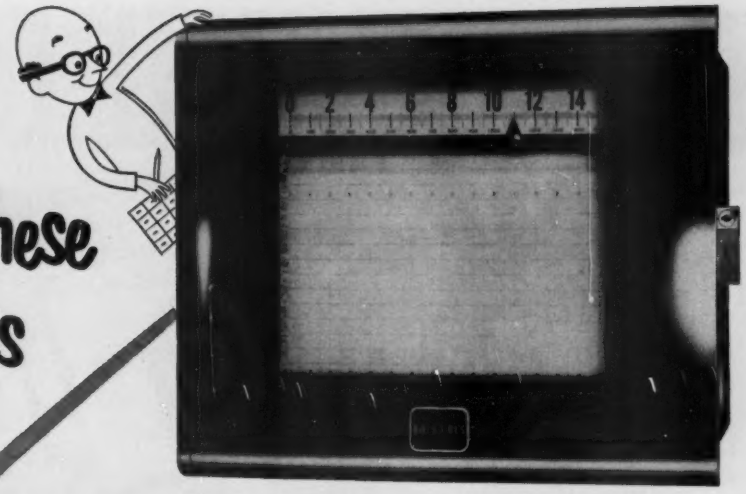
Brown Company research laboratories are constantly producing new fibres that enable the paper industry to take advantage of the versatile characteristics of wood cellulose. They were the first to make it economical and practical to use hardwood fibres in the manufacture of many products.

Our Technical Service Division is ready to work with you on any paper problem, however difficult it may be. Write Dept. CP-4 in our Boston office.

BROWN QUALITY COMPANY, Berlin, New Hampshire
CORPORATION, La Tuque, Quebec

General Sales Offices: 150 Causeway St., Boston 14, Mass.—Dominion Square Bldg., Montreal, Quebec

SOLKA & CELLATE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS • NIBROC KOWTOWLS
ONCO INSOLES • CHEMICALS • BERMICO SEWER PIPE, CONDUIT & CORES



Check these features OF THE BRISTOL DYNAMASTER FOR TEMPERATURE pH and SPEED

—the electronic master-mind for your measuring, recording and controlling problems

- ✓ Continuous-balancing electronic circuit responds instantly to minute changes
- ✓ All types of electric and air-operated controllers offered
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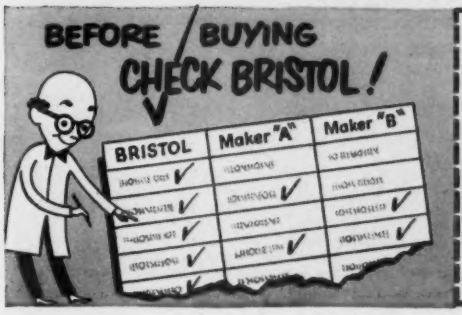
- ✓ Components interchangeable and easily replaced on all Dynamaster models
- ✓ Immune to most vibration or shock
- ✓ Exceptionally unaffected by stray currents (1000 to 1 discrimination).

BRISTOL

FOR DETAILED PROOF *of the sensitivity, versatility and reliability of the electronic Dynamaster, use the coupon or write for Catalog P1245.*

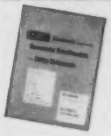
The dependable Guidepost of Industry

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS



THE BRISTOL COMPANY
142 Bristol Road
Waterbury 20, Conn.

Please send catalog giving details of Dynamaster performance to:



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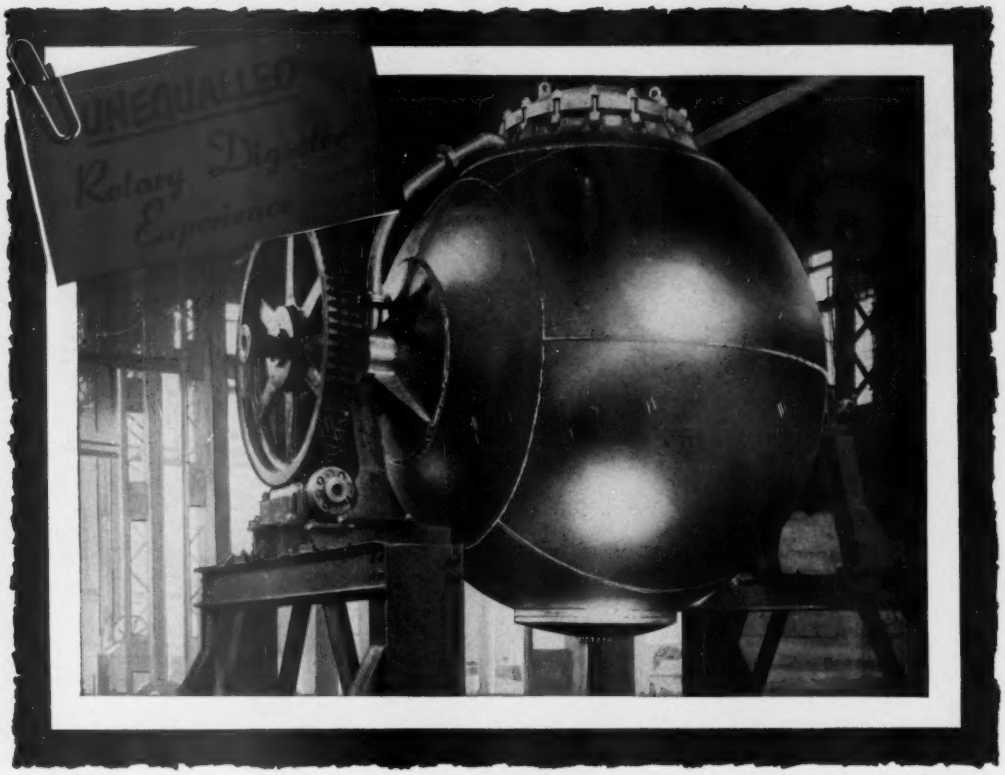
Performance

All Langston Slitters and Winders are noted for exceptional performance with low maintenance costs. Here's Type "CA"—ideal for many Winder or Rewinder jobs, from 62" to 122". It can be built to operate at speeds up to 3000 f.p.m. and to handle rolls up to 60" in diameter or, on special order, 72".

SAMUEL M. LANGSTON COMPANY
CAMDEN, N. J.

Langston

slitters and winders



Biggs pressure vessels meet all paper industries requirements

THE trend to the semi-chemical pulping process is based on long term experience. Pulping mills have discovered that when the semi-chemical method is used, in conjunction with a globe rotary digester, lower cooking pressures will do the job in shorter cooking cycles. This is an important two-way savings.

They have found, too, that less equipment is required. In fact, costly liquor recovery systems are eliminated. The spent liquors can be used for unbleached stock, and because waste is held to a minimum, stream pollution is substantially reduced.

Biggs pioneered the Globe Rotary Digester. Since early in their existence — which began in 1887 — Biggs has worked with the Pulp and Paper Industry in designing and manufacturing equipment that will produce better papers at less cost.

For more information regarding the latest in digester equipment, or for engineering data contact The Biggs Boiler Works Co., 1015 Bank Street, Akron, Ohio.

THE BIGGS BOILER WORKS COMPANY

1015 BANK STREET • AKRON 5, OHIO

Large installation of Buell van Tongeren Cyclones collecting fly-ash from boilers at a paper plant.

Worrying About Fly-Ash Discharge?

This industrial 'dust' man can help determine the most efficient method of Soda-Ash Recovery and Fly-Ash Collection for you!

The Buell organization of industrial 'dust' men is devoted solely to the design and construction of equipment for Soda-Ash recovery and Fly-Ash collection that will most efficiently and economically solve your plant's specific Stack Dust problem.

For more than 18 years we have been doing just this for all American industry. Every Buell installation is a custom-designed system, engineered to hold stack dust discharge down to the practical limits which assure improved product and/or process, better plant-community relations, higher levels of employee morale.

For full information about Buell's ***3 basic systems*** of dust collection, and how one can be applied to the solution of your stack dust problems, write today. Ask for the new informative bulletin titled, "The Collection and Recovery of Industrial Dusts." Do it now. Buell Engineering Co., Dept. 24-D, 70 Pine Street, New York 5, N. Y.

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HIGH EFFICIENCY CYCLONES • ELECTRIC PRECIPITATORS
TYPE 'LR' COLLECTORS • LOW DRAFT LOSS COLLECTORS
SPECIAL PURPOSE COLLECTORS • DUST HOPPER VALVES

ENGINEERED EFFICIENCY IN DUST RECOVERY

Sulphur

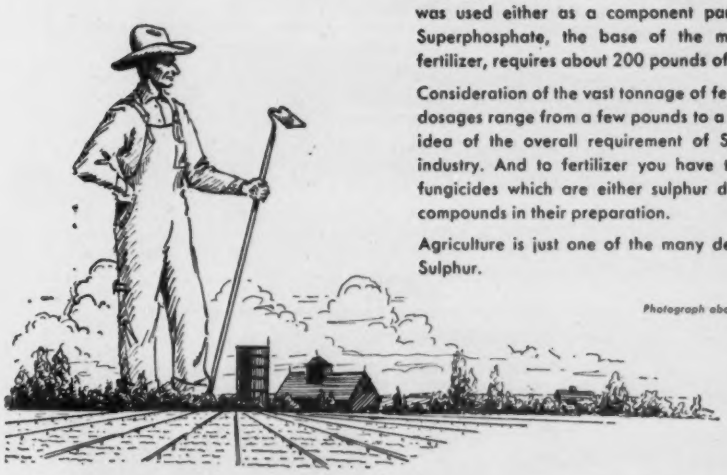
Thousands of tons mined daily, but where does it all go?

THE DEPARTMENT OF AGRICULTURE reports that in 1950 some 336,000,000 acres of land in the United States were under crop cultivation. That's a lot of acreage.

But where, you might ask, is the connection with Sulphur? Fertilizer, to take just one phase of agriculturally-used chemicals in which Sulphur was used either as a component part or as a processing element! Superphosphate, the base of the most widely used manufactured fertilizer, requires about 200 pounds of Sulphur for every ton produced.

Consideration of the vast tonnage of fertilizer used in agriculture — and dosages range from a few pounds to a ton or more per acre — gives an idea of the overall requirement of Sulphur for this one division of industry. And to fertilizer you have to add all the insecticides and fungicides which are either sulphur derivatives or have used sulphur compounds in their preparation.

Agriculture is just one of the many destinations of great tonnages of Sulphur.



Photograph above shows our loading dock at Galveston, Texas

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

Tree crops need protection, too

Fire and the elements are not the only destroyers of timber crops. *Actually, insects and disease annually destroy 30% more timber than forest fires!* If we are to keep our forests green, this insect menace to our future supply of wood products must be actively combatted.

In the Northwest, a strong program has already been launched against the ravages of the spruce budworm. In Washington and Oregon alone, more than 40 billion board feet of timber have been saved which otherwise would have ended up as waste.

Aerial spraying of insecticide did the job . . . and the Pennsalt-produced insecticide proved 99% effective. The value of the salvaged timber has been conservatively set at $785 per acre, yet the cost of saving it averaged only a little more than $1.00 per acre!

Similar methods will undoubtedly prove equally effective in ridding other forest lands of insects and disease . . . wherever private interests get their heads together in a concerted plan of action. Pennsalt technicians will be glad to offer their assistance on these problems from coast to coast.

In the West: **Pennsylvania Salt Manufacturing Co. of Washington, Tacoma, Wash. and Portland, Ore.**

In the East: **Pennsylvania Salt Manufacturing Company Philadelphia 7, Pa.**

Timber is a crop . . . let's protect it

PRODUCERS OF

Liquid Chlorine • Caustic Soda • Bleaching Powder • Potassium Chlorate • Sodium Chlorate • Anhydrous Ammonia • Perchloron® • Sodium Arsenite • Sodium Hypochlorite • Muriatic Acid • Sulphuric Acid • Anhydrous Hydrofluoric Acid • Acid-Proof Cement • DDT • Penco Forest Spray.

PENNSALT CHEMICALS

for Industry • Agriculture • Health • Home

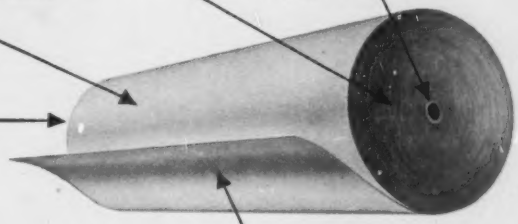
Consider ROLL QUALITY and you'll wind up with *Camachines*®

Uniform density means smooth unwind at top speed. — Automatic counterweighting of the riding roll keeps the rolls uniformly wound throughout.

Straight sides protect the edges in handling. — Precision fitting of the rewind shaft and drums eliminates end play, keeps the web running true.

Tight start and firm core reduce butt spoilage. — Automatic counterweighting and overspeed of the riding roll provide a good, firm start.

Clean cut edges reduce web breaks in subsequent processing. — Air controlled slitter units eliminate guesswork in the slitter pressure, add longer cutting life to the slitter wheels.



Wrinkle free web reduces spoilage. — Longitudinal drum grooving distributes slack section of the web evenly, preventing wrinkles in the rewound rolls. Spiral grooving aids in roll separation.

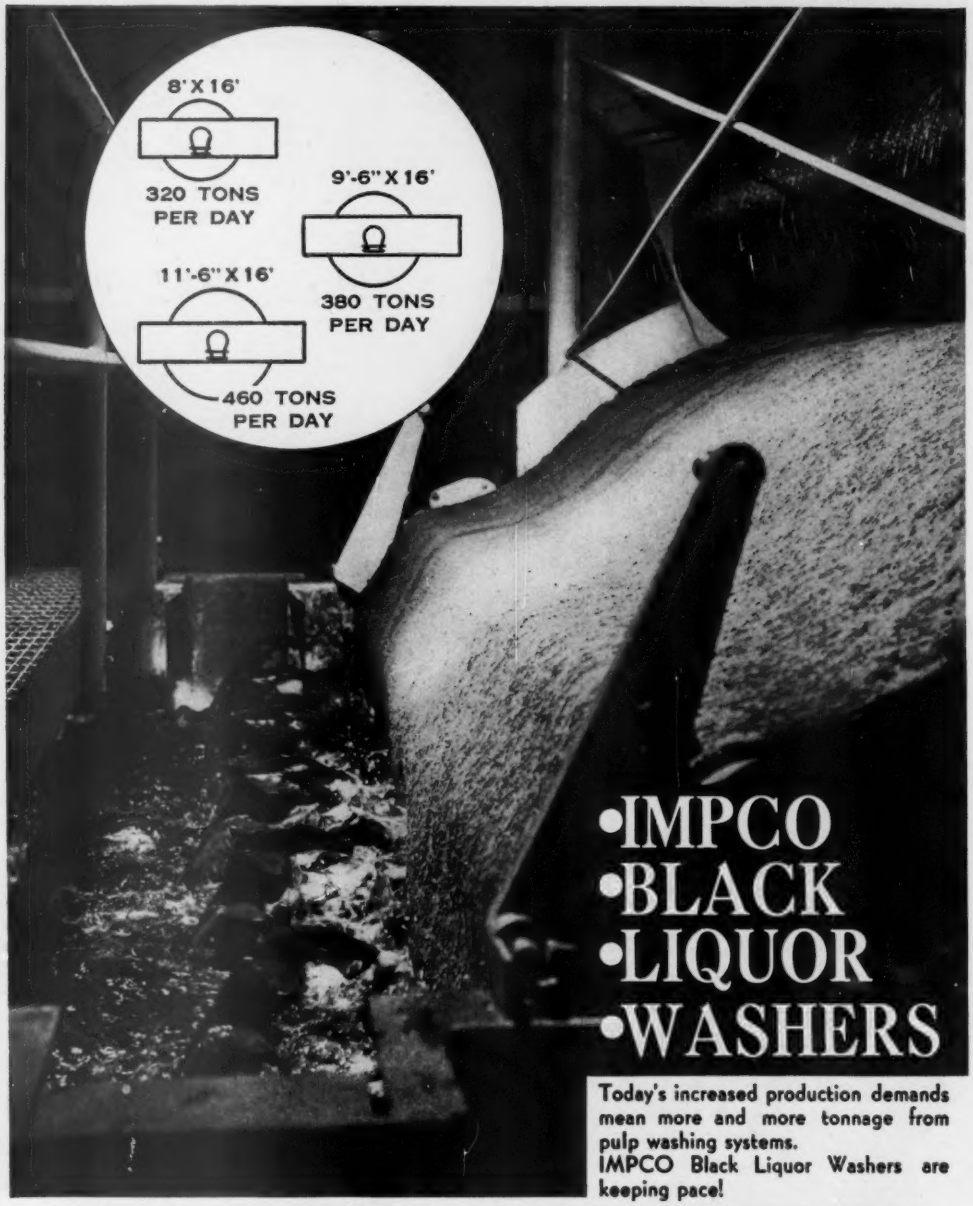
CAMACHINE 20, pacemaker for the Camachine line of high speed mill type winders. For information request Bulletin 3020.

AA-250

CAMERON MACHINE COMPANY · 61 POPLAR STREET · BROOKLYN 2, N. Y.

sales representative: pacific coast supply company • public service building, portland 4, ore. • 260 california st., san francisco 19, cal.

KEEPING PACE!



Today's increased production demands mean more and more tonnage from pulp washing systems.
IMPCO Black Liquor Washers are keeping pace!

IMPROVED PAPER MACHINERY CORPORATION
NASHUA, NEW HAMPSHIRE

Sherbrooke Machineries Limited manufacture similar equipment in Canada

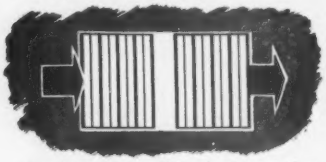
J–20

These 10 BIG Features Make Western Precipitation COTTRELLS Outstanding in the Paper Industry

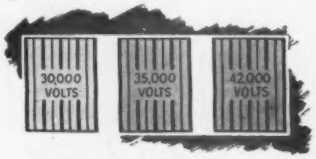
When considering COTTRELL Equipment for salt cake recovery, or any other application in the paper industry, remember this . . . *Western Precipitation Corporation not only pioneered the first commercial application of* COTTRELL *equipment made in any industry, but also pioneered the first application of* COTTRELL *equipment in the paper industry.*

Among the vitally important advantages found in Western Precipitation COTTRELLS, the following are particularly important in paper mill installations ...

1 Sustained Year-After-Year Efficiency: The recovery efficiency of Western Precipitation COTTRELLS does not fall off in service. All parts are of ample design to maintain guaranteed over-all efficiency year-after-year —not for just a single acceptance run.



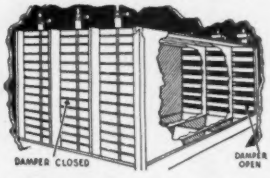
2 Higher Recovery: The horizontal flow design of Western Precipitation COTTRELLS eliminates collected material falling countercurrent to incoming gas stream. This assures higher recovery, minimum resuspension of recovered material in gas stream.



3 Maximum Performance: Horizontal flow of Western Precipitation COTTRELLS permits use of multiple electrical sections so that voltage in each section can be varied to dust loading for maximum recovery without arc-over or electrical breakdowns.

4 Lower Over-all Cost: When comparing COTTRELL costs, be sure to compare total *installed* cost, including duct work.

5 Simpler Maintenance: Because all interior parts and electrode systems are readily accessible, Western Precipitation COTTRELLS are far easier to maintain and service. Saves "down" time, saves repair costs.



6 Greater Adaptability: Horizontal flow design permits use of multi-vane dampers in multiple-unit installations. Thus, one unit can be shut off completely to permit maintenance operations without closing down entire Precipitator. Also, the dampers can be used in slightly-closed position to assure more uniform gas distribution.
On single-unit installations, chain curtains assure uniform distribution of gases. Curtains are easily kept clean by shaker mechanisms provided.

7 "V"-Shaped Hoppers: Horizontal design permits use of continuous "V"-shaped hoppers for collecting recovered material. Steeply-sloped walls in this type of hopper prevent build-up or bridging of recovered material.

8 Space-Saving Compactness: Not only do their horizontal design permit maximum compactness in Western Precipitation COTTRELLS, but various sections of a unit can be arranged for indoor installation in space above cascade evaporators, thus utilizing space otherwise wasted.

9 All-Weather Construction: Western Precipitation COTTRELLS are built for both indoor or outdoor installation, and this organization has had extensive experience with special construction to prevent excessive corrosion in rigorous northern climates.

10 More Extensive Experience: Since pioneering the commercial application of COTTRELL Precipitators over 42 years ago, Western Precipitation has consistently led in developing one unique advancement after another. Such features as 4-Point Electrode Suspension that eliminates misalignment of electrodes and reduction in recovery efficiencies . . . Unusually Rugged Rapper Design that assures proper cleaning of electrodes . . . Extensive Experience with all types of electrode designs . . and many other advantages assure you the ultimate in COTTRELL design and efficiency when you bring your recovery problems to Western Precipitation engineers.

Without obligation our nearest representative will gladly make Western Precipitation COTTRELL *experience available to you for solving your particular recovery problem. Why not contact him today?*

IMPORTANT! In addition to COTTRELL *Electrical* Recovery equipment, Western Precipitation Corporation also designs and installs the well-known MULTICLONE *Mechanical* Collectors for hogged-fuel fired boilers. These units are unusually compact, highly efficient and can be readily fitted into existing plants at minimum installation costs. *Write for details!*

Send for Helpful Literature

WESTERN Precipitation CORPORATION

ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1017 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
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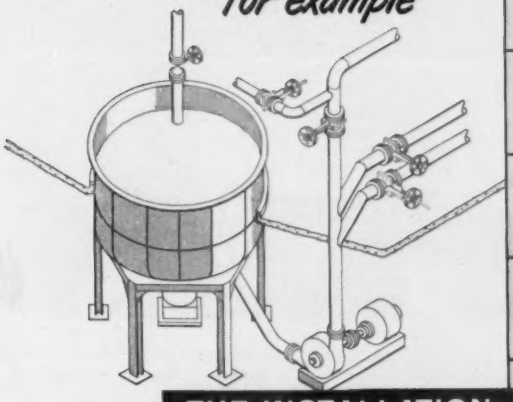
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

Can You Say As Much for Your Valves?

...in Pulper Outlet Lines for example



THE INSTALLATION

Crane pulp stock valves in pulper outlet lines, Chase Bag Company mill, Chagrin Falls, Ohio.

THE HISTORY

Normal consistency of stock at pulper is about 6%. Pulp Stock Valves formerly used here had a strong tendency to clog. Frequent shutdown of pulper was necessary for cleanout of valves and lines. This was a costly problem since the plant required continuous pulping.

The old valves were replaced with Crane Pulp Stock Valves, now in service more than 5 years. Since installed, the Crane valves have not forced a single shutdown. Clogging has been completely eliminated.

VALVE SERVICE RATINGS

SPECIAL FEATURES:	Good shearing-action disc
SUITABILITY:	Specially designed for pulp stock service
MAINTENANCE COST:	Inspection and oiling only
SERVICE LIFE:	More than 5 years - no wear showing
OPERATING RESULTS:	No trouble with clogged lines
PRICE:	O.K. – good value
AVAILABILITY:	Regular Crane product

THE VALVE

Crane No. 1425 non-clogging Pulp Stock Valves feature a patented *combing-and-shearing-action* disc and seating design. The knife-edge disc shears through combed fibers and seats easily against lead stop. Valve is bonnet-less; has no place where stock can accumulate. See these outstanding valves in your Crane Catalog, or ask your Crane Representative about them.

The Complete Crane Line Meets All Your Valve Needs. That's Why

More Crane Valves Are Used Than Any Other Make!

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois

Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

COMPANY COMMUNICATIONS

STORY OF WISCONSIN'S "WORKSHOPS"

A Self-Help Program—Aimed to Make Life Easier for the Industry

The Supervisor is the Key Man—He is the "First and Best Channel"

NEW YORK—AND APPLETON:

PRES. NATHAN H. BERGSTROM, Chairman of the APPA's Community Relations Committee, is in center of his national committee group at top, and in picture below he is shown in his similar capacity as Chairman of the Wisconsin Industry's Workshops. He is standing at left in lower view in North Shore golf club at Appleton, Wis. Seated next to him at his right is PAUL JOHNSON, editor of *Prairie Farmer*, a guest speaker at a Wisconsin meeting.

In upper view, l. to r.: Ed Frisby, Oxford Paper Co.; R. E. Canfield, Wise, Coriett & Canfield; D. J. Hardenbrook, V.P., Union Bag; W. H. Chisholm, V.P., Oxford Paper; Mr. Bergstrom, who is Pres. of Bergstrom Paper Co.; Geo. O. Jenkins Jr., V.P. of Geo. O. Jenkins Co.; W. D. Welsh, Exec. Asst., Crown Zellerbach; Geo. Boyd, Jr., Wise, Coriett & Canfield; E. W. Tinker, Exec. Secy., APPA; D. M. Rochester, Secy. of the committee.

Here is the story of Wisconsin's management Workshops—told for the first time. (See editorial comment—Page 3)

A major subject of discussion for top management men attending Paper Week at New York's Waldorf-Astoria was what is now becoming known as company *"communications."*

Management men, who have done a lot of thinking and talking along these lines, like the word better than the old "relations." It means more to them—more clearly indicates practical results. It is not just one-way communication—from management to employes and company to community, but two-way. Smart management also wants to receive a free flow of opinions and sentiments from their employes and communities.

Held up before pulp and paper leaders from far and wide, who gathered in New York, were the Communication *"Workshops"* which have become fixtures of the Wisconsin Paper Industry during the past 19 months. These meetings, three of them held in late 1950, five more in 1951, and which were to continue periodically, were and are, regular programmed gatherings at the North Shore Country Club in Appleton, Wis., where the top management men from many mills, and their specialists on personnel and public matters, literally "let their hair down."

L. to R.: MILAN BOEX, Pres. of Northern Paper Mills, and DAVID SMITH, Pres. of Wausau Paper Mills, who are V.P.'s of Wisconsin Industrial Committee for Information Service; and M. J. SCHULENBERG, Dir. of Pub. Rel., Kimberly-Clark, who is Chairman of Wisconsin group's Activities Committee.

IS, WPI—Information Service, Wisconsin Paper Industry—at 712 Kinzie Court, Menasha, Wis., home of John McCune, the co-ordinator, is the agency created by the Workshops to serve them and the entire Wisconsin industry with useful material and information for continuing programs in each mill town, at the mill levels.

In many respects these Wisconsin "Workshops" are believed a unique development in American industry. They are very advanced industrial enterprises, particularly in their *cooperative* features and the participation of *top company officials*, along with personnel and public relations officials. Here is their story and some of the ideas they have developed:

Their files actually date back to 1949. Most meetings are attended by 20 to 30 company representatives. The presence of presidents, vice-presidents, etc., has been encouraging to the others.

Officers and Leaders

Last fall all officers and executive committees were re-elected for another year.

Nathan H. Bergstrom, president of Bergstrom Paper Co., is chairman; Milan Boex, president and general manager of Northern Paper Mills, and David B. Smith, president and general manager, Wausau Paper Mills, are vice chairmen; A. C. Haselow, secretary-treasurer of Gilbert Paper Co., is treasurer; Carl Geisler, secretary.

M. J. Schulenberg, director of public relations, Kimberly-Clark Corp. (one of these days, may we expect K-C to change that title to communications, too?), is chairman of the activities committee. Other members are: Ralph R. Cole, secretary-Treasurer of Consolidated Water Power & Paper Co., E. A. Meyer, president of Badger Paper Mills; and Robert F. Nelson, executive vice president, Rhinelander Paper Co.

Through IS, WPI, mills are provided with information for evaluating or establishing house organs, bulletin boards, handbooks, open houses, movies, papermaking demonstrations, foremen's clubs, supervisors' meetings, service clubs, employe annual reports, scholarships or gifts, newspaper and radio cooperation, etc., IS, WPI is building up a file of visual aids, speech material, news releases, institutional ads, posterboard frames and material. WPI's goal is to: "Devise ways and means for a long range program that would gain additional respect for the contributions of our industry to Wisconsin and a greater understanding of our problems; to do our share toward maintaining stability

THE WISCONSIN WORKSHOP at work. Top company executives sit side by side with their personnel and public relations men, frankly discussing ways and means of better reaching the ears of their employes and their community neighbors with the facts about industry and its role in a modern free world. One of meetings held at North Shore Country Club, Appleton, Wis.

for our companies, our communities and the state."

Self-help Is Basic Policy

WPI's basic policy: A self-help program. Not handling any individual mill or company problems in the Workshops, but helping them to handle their own problems, to "make life easier for the industry" by providing material and stimulation for improved local and cooperative undertakings.

Don Rochester, national secretary of the industry's communications program, who made a report on it at Paper Week in late February, attended sessions of these Workshops. He told members their IS, WPI is unique in the industry, but he expected similar services in other pulp and paper regions would be modeled after it.

One outside speaker brought to a Workshop, Dr. Robert K. Burns, director of the Industrial Relations Center of the University of Chicago, expressed a more urgent view of the problem. He warned "in a few years we will be fighting to educate our own people." In support of this he cited laws to limit employer-employe contacts, powerful publicity organizations in unions (for example, the United Auto Workers "educational department" staff of 70 persons in Detroit).

Previews of Special Programs

At these Workshops, mill men have been given "previews" of special projects or programs they might want to employ, such as the Chicago U. program, described as a system of developing economic understanding, increasing productivity and improving leadership in industry. The center is serving some 60 companies.

Also previewed was the DuPont Co.'s program: "How Our Business System Operates," guided discussions for employes with visual aids, available from the Public Relations Division of NAM, 444 Madison Ave., New York, N. Y.

Another was a program of supervisors' evening meetings, $175 to $190 in Wisconsin, offered by R. A. Stearns & Co., 209 So. LaSalle St., Chicago. This is a 13-session course which Austin Kiplinger wrote would even make many *businessmen*, as well as employes more "clear-headed"

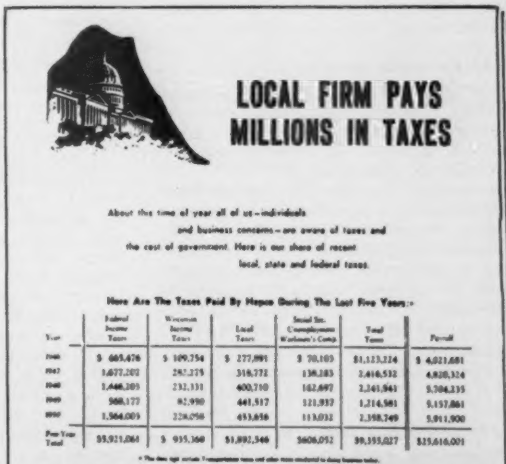
IN ONE OF ITS REPORTS, the IS, WPI published these "Ten Commandments" of Good Company Communications. They would seem to be excellent counsel for pulp and paper mills wherever they are. More Wisconsin pulp and paper companies have launched communications programs as a result of the Workshops held in Appleton—with these maxims as guiding beacons.

The Ten Commandments of GOOD Employer-Employee Communication

●

1. Be sincere; you can't make white out of black.
2. Be simple and unaffected in your language.
3. Don't overglorify the company.
4. Select competent personnel to handle your program.
5. Make your communications a top level supervisory responsibility.
6. Don't ignore unsavory situations your employes know exist.
7. Investigate ALL devices of communication and use all that can help.
8. Establish your needs first, THEN establish your budget—not vice versa.
9. Check constantly on your communications effectiveness.
10. Never let your communications program slow down.

NEKOOSA-EDWARDS PAPER CO. bought the back page of the *Wisconsin Rapids Tribune* (about $80) to tell this tax story. Its taxes amount to 37% of payroll—averaging $1,871,005 a year over 5 years, not counting transportation and other incidental business taxes. Wisconsin Workshops thought this was effective company communications via advertising.



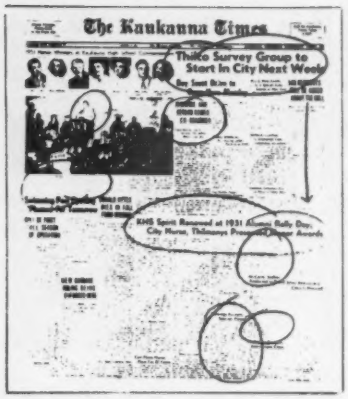
LOCAL FIRM PAYS MILLIONS IN TAXES

About this time of year all of us—individuals and business concerns—are aware of taxes and the cost of government. Here is our share of recent local, state and federal taxes.

Here Are The Taxes Paid By Nepco During The Last Five Years:*

Year	Federal Income Taxes	Wisconsin Income Taxes	Local Taxes	Social Sec. Unemployment Workmen's Comp.	Total Taxes	Payroll
[illegible]	$ 665,476	$ 109,754	$ 277,091	$ 70,103	$1,123,224	$ 4,021,681
[illegible]	1,677,202	292,275	310,772	138,283	2,416,532	4,820,324
[illegible]	1,446,203	232,331	400,710	162,697	2,241,941	5,704,235
[illegible]	908,177	82,990	441,517	121,937	1,214,581	5,157,861
[illegible]	1,504,005	228,050	453,656	113,032	2,398,749	5,911,900
Five Year Total	$5,921,064	$ 935,360	$1,892,346	$606,052	$9,355,027	$25,616,001

Nekoosa-Edwards Paper Co.


The Kaukauna Times

Thilco Survey Group to Start In City Next Week

KHS Spirit Restored at 1931 Alumni Rally Day; City Nurse, Thilmanys Present Charter Awards

KAUKAUNA, WIS., TIMES was liberal in reporting the unusual Opinion Poll conducted by Lawrence College to find out what folks thought of Thilmany Pulp & Paper Co.

about fundamentals.

For instance, it describes profit as "that part of the selling price used to pay the owner for the use of his tools." Other "Stearnsisms"—"Do we stretch our jobs by limiting output?—No, costs and prices go up and sales go down." "You don't work for money, but what money will buy." "As we produce more, we get more to split between payroll and profit." "Machines make jobs"—and many examples from the cotton gin, bringing prosperity to South and Northeast, and iron plow, which made the Midwest the bread-basket of the world, are cited.

One Wisconsin mill reported it was presenting the Brookings Institute dramatization of American economy (available through Brookings-Supervision Program, 1060 Leader Bldg., Cleveland 14, O.). The mill conducted the ½-hour lessons in a 2-hr. lunch period, held once a week for 15 weeks.

Many Valuable Ideas

But even more interesting, perhaps, than any of these outside syndicated services and programs, was the original thinking that came out of these Workshops from *their own* delegates.

A cardinal principle oft-repeated was that the active interest and participation of top management was essential Some Workshop delegates comments: "No program would be any good unless time and effort of top management is involved." "It is highly necessary because of the difficulties and pitfalls encountered in this kind of work." "If management won't get behind the idea, you may as well forget it."

Supervisor—Key Man

Much stress also was placed on the role of *supervisor—"the first and best channel of communication."* Virtually an entire Workshop session was devoted to the supervisors and foremen—ways and means of getting them to convey information to employes, and report employe attitudes and reactions back to top management. "Make the supervisor feel he is definitely a part of management," was the way one Workshopper put it.

It was suggested that at meetings, supervisors rotate as chairman, top management sit in only as "auditors." "Encourage the supervisor's ability to manage." Before buying syndicated signs, bulletin board material or special services from outside, have supervisors pass on their merits. Let supervisors be "advisors" or even "censors" for company publications. Verbal presentations of a company's annual report were suggested. Also, family nights or group dinners, with company footing bills, but supervisors acting as hosts. Let supervisors rotate weekly in using bulletin boards to show pictures, activities, etc., of their department, was a suggestion.

Other pungent comments by Workshop delegates: "Don't take any questions to a supervisor unless you are willing to take his advice." "For mixing business and pleasure, nothing is superior to a well-conducted supervisors' meeting." "The story of communication should be a regular part of a supervisor's indoctrination."

Watch for Barriers, Too

But some of the barriers are the supervisor who "hangs back," the supervisor who feels he "hasn't the confidence of the rank-and-file," and a supervisor who may have better-educated employes working under him. But training should make supervisors more at ease socially, and "on their feet," more appreciative of the value of "visiting" with their workers, better "ambassadors" of the company outside the mill. In rare cases, however, it is better not to force the issue with a foreman who lacks confidence.

Caterpillar Tractor Co.'s supervisors dinners where a management panel answers questions which have been gathered for two weeks ahead of time, were cited.

Where "communication" dinners have been held in Wisconsin mills, with foremen or supervisors conducting, they have been most successful. Union representatives approved the program. One employe was heard to say: "My wife should have been along to hear this, too."

(Continued on Page 88)

WHAT'S BEING DONE NATIONALLY

Not even industry men on the executive committee or board of governors of APPA can say for certain just where or with whom the idea of the Community Relations Committee originated. It seems to have sprung up in the industry several places simultaneously. But the point to understand, PULP & PAPER learned Paper Week from an official close to the movement, is that the committee has no message to sell or put across.

"Actually, I believe the committee stems from a realization on the part of many industry men as to what a great job many of the larger integrated companies are in the mill town, instead of from some central headquarters down," he said, "and what an impressive total impression this work gives to the whole industry. The committee is simply going to make an effort to increase that total impression by helping more mills get into the work. But each mill will do it in its own way, in its own town."

Don Rochester, secretary of the committee, confirmed this: "We aren't going to try to tell them from New York what to do. Our committee will simply furnish cooperation."

The Community Relations Committee, like all committees of APPA, is made up of, and run by, industry men. Mr. Rochester's role is coordinator. He's a forester, had a lot to do with the revised program of AFPI, and was picked last war by Walter Fuller, publisher of the Saturday Evening Post and head of National Publishers' Association to produce the film "Timber is a Crop" which was shown Paper Week.

The "Spark plug" is N. H. Bergstrom, president of Bergstrom Paper Co., Neenah, Wis., who is chairman of the APPA committee, and also chairman of the Wisconsin workshops described on these pages. William D. Welsh, of Crown-Zellerbach, another company with a program, said at the Feb. 21 meeting: "We're ready to hook in. Just give us the signal."

New Englanders point to the work of George Olmsted Jr., S. D. Warren Co. president, whose Paper Week message was that "merchandising was the one big job ahead for the industry." He stressed that merchandising was "a responsibility to employes."

It is at his invitation that the committee will shape a regional sub-group in New England and the site will be Cumberland Mills, Maine, at the S. D. Warren mill, in April.

A National sub-committee will act as "editorial board" for any material the group may issue for mill bulletin boards and company publications. It seems likely it will include men whose mills have already embarked on successful programs.

In his talk Paper Week before the Writing Paper group Nat Bergstrom attempted the daring feat of defining the various "relations" in industry today, but made clear by his talk that each might impinge on the other, and that there's nothing in a name if the rose of community relations smells sweet. To PULP & PAPER he said: "The program we have here begins with the tree seedling. It should grow in time, with good "forestry practice" to a national public relations forest for the industry."

The committee session chairmaned by Mr. Bergstrom adopted a resolution to submit to the executive board, which would approve start on the second leg of the program and formally suggest to each mill that it designate a man to handle community relations, liaisoning with the committee, and with adequate authority and responsibility, and sufficient time to perform. This resolution was moved for adoption by Mr. Olmsted and voted approved.

Others on the committee besides Mr. Bergstrom and Mr. Rochester are: Wentworth Brown, Brown Co.; Dwight J. Thomson, Champion; A. R. Heron and W. D. Welsh, Crown-Zellerbach; Paul Koenig, P. H. Glatfelter Co.; George Adams, International Paper Co.; George O. Jenkins, Jr., Geo. O. Jenkins Co.; Carl R. Geisler, Marathon Corp.; A. G. Paine, II, N. Y. & Penn Co.; T. F. Spear, Oxford Paper Co., and Donald J. Hardenbrook, Union Bag.

Some Quotable Quotes

WHAT LEADERS SAID AT PAPER WEEK

Sydney Ferguson, new president of APPA, is board chairman and former president of The Mead Corp., board chairman of Escanaba Paper Co., vice president of Harriman Co., a trustee of the Institute of Paper Chemistry and a former president of American Forest Products Industries, Inc.

He is the second British-born industry leader to head up APPA in recent years. The other was D. K. Brown, president of Neenah Paper Co. Mr. Ferguson received his education and professional training as a chartered accountant in Britain. Then, after several years of experience in public accounting in this country, he entered the paper business. He has long made his headquarters in New York City.

He joined The Mead Corp., in 1919, serving in various capacities and finally succeeding another former APPA president, George H. Mead, as corporation president. About two years ago Mr. Mead became honorary chairman and Mr. Ferguson chairman, as C. R. Van de Carr moved up to the presidency.

There are 12 pulp and paper mills which may be listed in the Mead organization, if subsidiary and affiliated or associated enterprises are included.

Mills in Cover Picture

Three of these mills are shown in our cover montage.

At top left—the fully owned Escanaba Paper Co. mill at Groos, near Escanaba, Mich., a two-machine coated paper and groundwood offset mill which The Mead Corp. acquired in 1943 (see Nov. 1951 PULP & PAPER).

At lower left—The affiliated Macon Kraft Co. of Macon, Ga., whose 216 in. Fourdrinier has made around 850 tons of board a day. This company is building a new mill at Rome, Ga. (see April, 1950 PULP & PAPER, a complete description).

At lower right—The fully owned Kingsport, Tenn. soda pulp and paper mill with four machines on book paper (see Feb. 1951 PULP & PAPER, a complete description).

Mr. Leslie, the new first vice president of APPA, is also first vice president and general manager of Hammermill Paper Co., and vice president of Grays Harbor Pulp & Paper Co., and he became a newly elected trustee of the Institute of Paper Chemistry last fall, when Mr. Ferguson was re-elected trustee—both for three year terms.

At upper right in our cover montage—Hammermill Paper Co., at Erie, Pa., on Lake Erie. This mill has made nearly four million pounds of fine papers since the Behrend brothers founded it in 1899, and it was Hammermill men who started and still operate the paper division of the mill built by Rayonier Inc., at Hoquiam, Wash., which sells Hammermill bond made from Rayonier pulp. It is a separate company known as Grays Harbor Pulp & Paper Co.

THIS INDUSTRY'S NEW LEADERS

These two gentlemen, whose pictures appear on our cover this issue, superimposed on a montage of mills of their companies, are newly elected leaders of the American pulp and paper industry. SYDNEY FERGUSON (left) is President DONALD S. LESLIE (right) is First Vice President of the American Paper & Pulp Association for 1952-3.

Mr. Leslie started with Hammermill in 1928 and worked in many capacities leading to direction of all operations. Also at the last Paper Week, he was elected regional director of the Middle Atlantic division and executive board member of the U. S. Pulp Producers Association.

Mr. Ferguson and Mr. Leslie are both directors of the companies in which they are leading officers.

Our cover montage indicates how representative they are of this industry—not in just one region of the country but in several.

It might be added that besides the Grays Harbor mill for Mr. Leslie, the other mills in Mr. Ferguson's company, not shown on our cover, are the "mother" Mead mill at Chilicothe, O., and others at North Leominster, Mass.; Nashville, Knoxville and Harriman, Tenn., Lynchburg, Va., Sylva, N.C., and Bristol, Va., and Mead has half ownership with Scott in the Brunswick Pulp & Paper Co., Brunswick, Ga. (PULP & PAPER, Jan. 1952).

A REVIEW OF REMARKS

Now that Paper Week 1952 is history and the routine daily reports have been widely published, it may be of interest to scan some of the most cogent remarks that were made during the February meetings in the Waldorf-Astoria in New York.

For the pulp and paper man in a hurry, here is a collection of what appeared to be among the most significant statements:

SEE PAGE 3 FOR INDEX
To Articles in This Issue

Quotable Quotes of Industry Leaders From Paper Week

Karl A. Clauson, Pulp Consumers: During 1952 the supply of market pulp is expected to once again catch up with demand. The first stage in this development will, in all probability, be indicated by the elimination of the top tier of the present triple price structure. By the end of the year it is expected that a single competitive price will prevail in most grades. We look forward in 1952 to the modification, and in some cases removal, of the government controls which have been restricting the free operation of the supply-demand equation in the market pulp field.

Major William Beckett, president, Becket Paper Co.: Inflation is the greatest threat to our industrial and national safety today. Inflation will not be checked until government spending is balanced against government income, and the process of deficit financing is stopped. No amount of additional production can correct the main inflationary pressures, which are monetary, and caused principally by government spending, for which additional money must be created. . . . The way to stop this is to stop it, which takes a lot of skill, strength, and courage on the part of determined federal officers in the highest places.

George Olmsted, Jr., President APPA: If we accept the profit approach as a desirable goal then we have a concept which calls for some new thinking. First, that we price for *profit*—not just for getting rid of a product, but for *profit*. We must get what our products are worth. Second, that we price for stability—so that over the long haul paper is a relatively steady commodity and not one which fluctuates widely and frequently. Third, that we build up a selling organization that *sells for profit*—not one that just sells. And fourth, that we develop merchandising thinking—not just sales thinking—wherein all proposed acts are measured against market conditions and their effect on the market. We must do these things, I think, if we are to maintain continuity of profits and dividends and the financial respectability which results from such continuity.

D. C. Everest, president, Marathon Corp.: My guess is that within less than ten years the political party, whether it be an old or a new one, which advocates a protective tariff for American industry will have the support of labor unions, farmers and a myriad of other people. They will then realize the effect of low-paid foreign competition on their own individual situations. I just don't know how we are going to harmonize our present ECA efforts with the future national economy. The one thing ECA should have done was to make decent grants to educational institutions to provide trained sci-

entists for future operations both here and abroad, as we are not training them as fast as our growing business requires them.

E. W. Tinker, executive secretary, APPA: The simple but significant outlines of 1951 in our industry are these—in that year the pulp, paper and board industry employed 254,000 workers. Allied products industries another 250,000. Printing and publishing, entirely dependent on paper production, an additional 772,000. This creates a total of 1,276,000 people which, you will note, does not yet include logging and other woods operatives. It is a conservative likelihood that more than 2,000,000 people of the U.S. are now engaged in pulp and paper work and directly related activities. An equally conservative estimate of their earnings is $7,500,000,000 (7½ billion)—an astronomical figure even in this era of astronomical governmental expenditures!

James L. Ritchie, executive director, U. S. Pulp Producers Assn.: The over-all supply of wood pulp *potentially* available for domestic consumption in 1952, assuming no change in the volume of imports and exports, will be a million tons or 5 per cent greater than in 1951, due to expansion of domestic productive facilities; the supply *actually* delivered will be contingent upon the level of domestic demand for pulp and pulp products and upon the continued availability of adequate supplies of sulfur and pulpwood for pulp production.

Robert M. Fowler, president, CPPA: In 1951, the U.S. produced nearly 16½ million tons of pulp; and Canada a little over 9 million tons. . . . On the consumption side, the U.S. consumed nearly 18½ million tons of pulp; Canada consumed nearly 7 million tons. If these two sets of figures are compared, some interesting results become apparent. For one thing, it appears that in 1951 you in the U.S. consumed 2 million tons more pulp than you produced, and Canada produced about 2¼ million tons more than she consumed. The two countries taken together had an almost exact balance between production and consumption—there was, in fact, a 250,000 ton surplus. This should mean that, in an emergency, this continent can be reasonably self-sufficient in pulp supply.

Cola G. Parker, president, Kimberly-Clark: . . . the continued existence of a civilized free world depends upon a strong American economy. Furthermore, a strong economy necessarily depends upon healthy, efficient and solvent industry. . . . I have the belief that all of us in our various walks of life have today more urgently than ever before, the obligation to observe what is happening, to think about and discuss events, their courses and their results, and to arrive at the soundest judgments of which we are capable in times when that is more difficult to do than ever before. If we do not, we may find ourselves asking the same question as an English professor, "Is it conceivable that the American people, having provided so strong a proof of the virtues of a free economy, are gradually becoming unaware of, or indifferent to, the secrets of their own greatness?"

N. H. Bergstrom, president, Bergstrom Paper Co.: Community and public relations are to a great extent tied to philanthropy and national survival, but good employe relations give dollars for dividends. By good employe relations, costs are lowered, production increased, and everyone feels better—including the boss and *his* bosses, the customer and the stockholder. . . . Community relations carries on from employe relations and additionally involves the obligations of the company to the community. It includes community and industry's part in the regional and national picture. (In Wisconsin our objective is) to devise ways and means for a long range program that would gain additional respect for the contributions of our industry to Wisconsin and a greater understanding of our problems; to do our share toward maintaining stability for our companies, our communities and our state.

NEW MILL EXECUTIVES

FOSTER P. DOANE JR. (left), for many years with International Paper Co. and Sandy Hill Iron & Brass Works, has joined Bergstrom Paper Co., Neenah, Wis., as Production Manager. Mr. Doane, who is 51, graduated from MIT, and was 12 years with I.P. at Fort Edward, N.Y., making book paper from de-inked waste. Bergstrom has a de-inking process. He was 9 years with Sandy Hill.

J. HARLAN HEUER (right), who has become Superintendent of Bureau of Tests at principal Millinocket, Me., plant of Great Northern Paper Co., as we recently reported in previous issue. He was Tech. Director and Asst. to Pres. at APW Products, Albany, N.Y., and formerly was with St. Regis. Is son of late Robt. Heuer, Supt. with Weyerhaeuser many years.

AN HOUR LATER—A MEDALIST

PULP & PAPER snapped this photo of MR. AND MRS. RAYMOND S. HATCH just as they entered the Paper Week luncheon room in New York where he was awarded 1952 TAPPI GOLD MEDAL, as we previously reported. Mr. Hatch is Vice Pres. of Hudson Pulp & Paper Corp., heading research. He was former Weyerhaeuser Research Director.

Officers Elected During PAPER WEEK 1952:

American Paper & Pulp Assn.—
President—Sydney Ferguson, Chairman of Board, The Mead Corp.; 1st Vice Chairman—D. S. Leslie, 1st Vice Pres., Hammermill Paper Co.; Executive Secretary—E. W. Tinker.

TAPPI—
President—K. P. Geoghegan, Vice Pres., Howard Paper Mills, Inc.; Vice President—George H. Pringle, Chief Engineer, Mead Corp.; Secretary-Treasurer—R. G. Macdonald.

Association of Pulp Consumers—
President—David Knowlton, Pres., Knowlton Brothers; Vice President—Aubrey K. Nicholson, Pres., Hollingsworth & Vose Co.; Secretary-Treasurer—Karl A. Clauson.

American Pulpwood Association—
President—E. O. Ehrhart, Vice Pres., Armstrong Forest Co.; Vice President—W. J. Damtoft, Asst. Secty.-Treas., Champion Paper & Fibre Co.; Vice President—L. J. Freedman, Woods Mgr., Penobscot Chemical Fibre Co.; Executive Secretary—H. E. Brinckerhoff.

U. S. Pulp Producers Association—
Executive Director—James L. Ritchie.

Forest Industries Council—
Chairman—Clyde Martin, Weyerhaeuser Timber Co.; Deputy Chairman—Charles H. Sage, Pres., Spruce Falls Power & Paper Co.; Secretary—Robert E. O'Connor, APPA.

National Council for Stream Improvement—
Chairman—George E. Dyke, Pres., Robert Gair Co.; Vice Chairman—Clyde B. Morgan, Pres., Rayonier Inc.; Executive Secretary—Russell L. Winget.

Salesmen's Association of the Paper Industry—
President—William J. Tilden, Mead Sales Co., Secretary-Treasurer—Miss Anne G. Toomey.

Soda Pulp Manufacturers Association—
President—Peter S. Paine, Pres., New York & Penn. Co.; Secretary—George O. Vogel, Mead Sales Co.

Sulfite Paper Manufacturers Assn.—
Chairman—Donald F. McCall, Vice Pres., Racquette River Paper Co.; Vice Chairman-Bleached—Leo E. Croy, Exec. Vice. Pres., Marathon Corp.; Vice Chairman-Unbleached—George Stuhr, Div. Sales Mgr., Southern Kraft Div., International Paper Co.; Vice Chairman-Manila—Wayne A. Brown, Mgr. Eastern Div., Crown Zellerbach Corp.; Vice Chairman—Machine Glazed—Neil E. Nash, Vice Pres., Nekoosa Edwards Paper Co.; Vice Chairman—Bleached Converting—Gilford F. Henderson, Mgr. Paper Sales, Brown Co. Secretary-Treasurer—Thomas J. Burke.

The Tissue Association, Inc.—
President—C. E. O'Connor, Jr., Vice Pres., Diamond Match Co.; Vice President—W. J. Servotte, Vice Pres., Bay West Paper Co.; Vice President—R. W. Sweet, Chairman of Board, Sweet Brothers Paper Mfg. Co.; Executive Secretary Ross A. Fife.

Writing Paper Mfgrs. Assn.—
President—Bruce Crane, Vice Pres., Crane & Co., Inc.; Vice President and Chairman Sulphite Bond Group—J. H. Goodwin, International Paper Co.; Vice President and Chairman Rag Content Paper Group—Hale Holden, Byron Weston Co.; Executive Secretary-Treasurer—M. C. Dobrow.

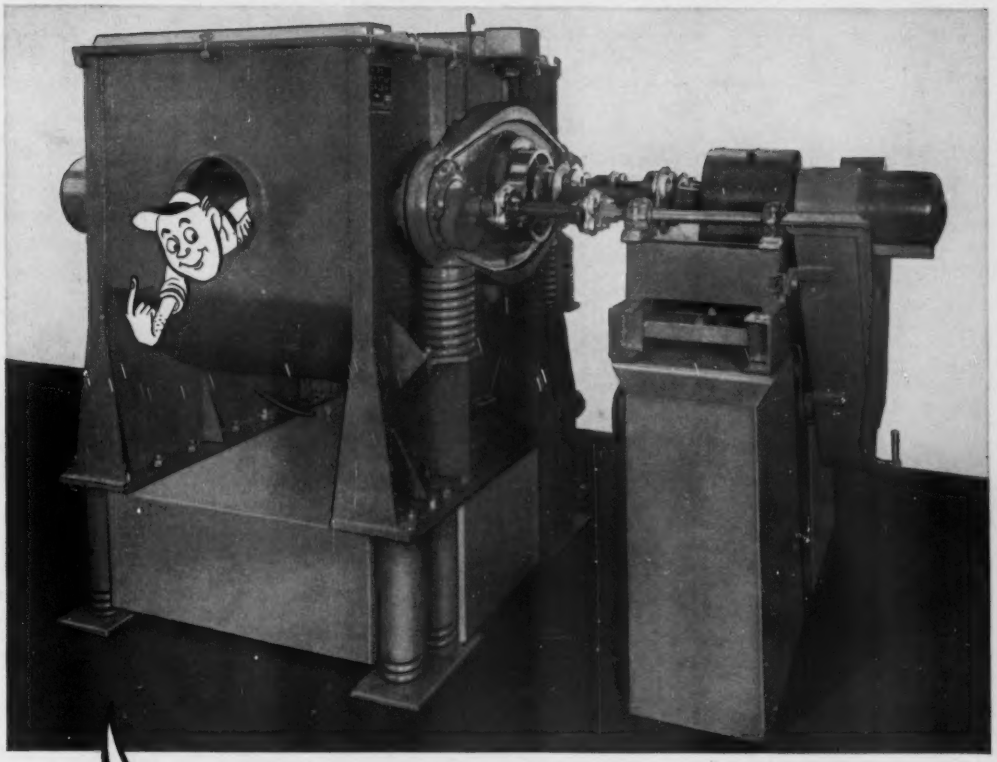
Groundwood Paper Mfgrs. Assn.—
President—Robert Faegre, Minnesota & Ontario Paper Co.; Eastern Vice President—Samuel Pruyn, Vice Pres., Finch, Pruyn & Co.; Western Vice President—Andrew Sharp, Kimberley-Clark Corp.; Secretary-Treasurer—Robert E. Canfield.

Kraft Paper Assn.—
President—Wayne A. Brown, Mgr. Eastern Div., Crown Zellerbach Corp.; Vice President—Walter C. Shorter, Vice Pres., Camp Mfg. Co., Inc.

Paper Napkin Association—
Chairman—B. T. Hoffmaster, Hoffmaster Paper Co.; Vice Chairman—Elmer Krueger, Paper Art Co.; Vice Chairman—Lee Fenstermaker, C. O. Reed Co.; Secretary—Arlo Wilson.

Glassine & Greaseproof Mfgrs. Assn.—
Chairman—Paul F. Moore, Pres., Westfield River Paper Co.; Vice Chairman—John L. Riegel, Pres., Riegel Paper Corp.; Secretary—T. J. Burke.

Waxed Paper Institute—Chairman—B. F. Lacy, Pollack Paper Corp.; Secretary-Treasurer—A. H. Noelke.



WANT TO GET IN ON A GOOD THING?

This BIRD VIBROTOR SCREEN is something on which to get inside information.

It uses slotted, undercut screen plates in combination with intense, controlled vibration and rotary action to deliver:

high capacity — 50 to 90 tons of well screened stock per day

at high consistency — 1.3 to 1.6% or higher

at low cost — power per ton of stock is a small fraction of a horsepower.

Why not find out what it can do on your stock?

BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS

MACON AND I. P. PILOT PLANTS ARE DESCRIBED

NEW W. L. RESEARCH IN SOUTH

Highlight of meetings of the National Council for Stream Improvement during Paper Week at the Waldorf in New York was the open discussion on waste and aquatic biology problems. Twelve men from industry, government, and the council led discussion, with William H. Weir, director of Georgia Water Pollution Control, as moderator.

Anthony W. Pesch, chief chemical engineer for the entire Southern Kraft Division of International Paper Co., sketched waste problems connected with kraft mills and the great improvement which has taken place. He estimated 95 per cent of the chemicals formerly lost by kraft mills are now recovered and reused.

COUNCIL PANEL, top l. to r.: W. W. MOGGIO of Council; TONY PESCH, Chief Chem. Engineer, all I.P. Southern mills; H. H. BLACK, U.S. Public Health; VANCE EDWARDES, Consultant; DON JACKSON, Hammermill Research Dir. Below, l. to r.: H. W. GEHM, of Council (G. E. DYKE behind him), DUNBAR TERRY, Mead Corp.; PETER DOUDOROFF, USPHS; R. E. DIMICK, Ore. State College; WILLIS VAN HORN, Inst. of Paper Chemistry.

Pesch Describes Activities

Mr. Pesch said that International Paper had set up a flexible pilot plant in 1949 to treat effluent containing kraft black liquor with lime. This treatment causes a reaction during which the lime hydrates and combines with organic matter to produce an insoluble calcium-organic precipitate to where much of the dissolved black liquor organic matter is removed in solution.

"The clarified effluent has shown an appreciable reduction in B.O.D. and a very significant reduction in color content," he explained, but the problems of settling and filtering lime-organic sludge make large-scale mill application impracticable.

The work of the Southern Regional Committee of the council was outlined by Mr. Pesch, who recalled establishment of a sub-committee to study kraft wastes in 1945. It was concluded that biochemical treatment of pulp mill diffuser effluent was most promising, and work began under W. W. Moggio, of the National Council, in Baton Rouge, La. But then new mills in the area and some old ones installed rotary vacuum filters for brown stock washing, and so a change was decided in the program to study treatment of the more voluminous and less concentrated effluent from the wet machine room.

To get at this problem, Southern mills voted funds for a pilot plant at Macon Kraft Co., Macon, Ga., which was completed and approved as adequate by the committee in Oct., 1951. Macon studies cover aeration, seeding with sewage plant sludge, and feeding the bio-organisms with nutrients such as nitrogen and phosphates.

In Baton Rouge, Mr. Moggio will continue further studies of treatment with lime—particularly for effective color removal.

Two kraft mills of International Paper, said Mr. Pesch, have installed long pipe lines resting on the bottom to discharge effluent into deep water. One of these plants is on tidewater and the other on a large river.

Pesch's Career

Mr. Pesch, born in West Bend, Wis., and graduate of Wisconsin University, 1927, has long been regarded as one of the Southern industry's outstanding technical men. However, he started in sulfite with a course at the Madison, Wis., U. S. Lab, and worked at Marinette & Menominee Co. and Oconto Falls mills in Wisconsin before going to the big IP mill at Camden, Ark., as chief chemist in 1930. He was chief chemist at Panama City and Mobile mills, general superintendent and mill manager at Georgetown, S.C., before being called to Mobile headquarters to head up all chemical engineering for Southern Kraft division.

Dr. Gehm's Talk

Dr. Harry W. Gehm, technical advisor to the council, outlined problems created by semi-chemical pulping. Where associated with Kraft mills, the spent semi-chemical liquor can be disposed of in the Kraft recovery system up to a ratio of about 1 to 4 on the pulp basis. But mills not so associated must depend on sufficient dilution water nearby for disposal, he said.

The semi-chemical wastes, he said, are lower than spent acid sulfite liquor in pollutional strength, but represent an oxygen load of from 4 to 6 times that of a kraft mill on a per-ton-of-product basis. But semi-chemical pulping reduces pollution over acid sufite on a BOD basis about 75 per cent, he said.

Investigations at Virginia Polytechnic

1952 STREAM COUNCIL LEADERSHIP

Leaders of National Council for Stream Improvement are (l to r): GEORGE E. DYKE of Robt. Gair Co., Chairman; CLYDE B. MORGAN, of Rayonier, and W. IRVING OSBORNE, of Cornell Wood Products, Vice Chairman; J. D. ZINK, of Hammermill, Treasurer; FRANK N. YOUNGMAN, of Crown Zellerbach, REUBEN ROBERTSON JR., of Champion, and ROY V. WELDON, of Great Northern Paper, were elected new Board of Governors members.

WOOD PULP
PAPER

Offices and representatives
in 60 cities in the United States,
Europe, Latin America, Africa, and Asia

BULKLEY, DUNTON & CO., INC. • BULKLEY, DUNTON PULP CO., INC. • BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC. • BULKLEY, DUNTON PAPER (NEW YORK) CO., INC.
In New England—CARTER, RICE & CO. CORPORATION

BULKLEY, DUNTON
ORGANIZATION
295 MADISON AVENUE, NEW YORK 17, N. Y.

Institute indicate that about 70 per cent of oxygen demand of neutral sulfite semi-chemical waste is caused by presence of sodium salts of the lower fatty acids, mainly acetic. Wood residues, sulfur compounds and celluose wastes cause the remaining 30 per cent.

Development of a satisfactory recovery process, said Dr. Gehm, has been hindered by these difficulties:

1. Low chemical content and fuel value per ton of pulp.
2. Lack of a satisfactory method for separating bulk of liquor solids from chips or pulp in sufficient consistency to allow economical evaporation.
3. Precipitation and scaling problems on evaporation resulting from low chemical concentrations.
4. Corrosion problems due to sulfur dioxide and related compounds.
5. Lack of a method by which chemicals could be recovered in usable form.
6. Stack odor problems.

"Recent mill scale research is bringing the industry closer to a successful recovery process," he said. "Within the last year, one such unit has made successful runs. But recovery destroys some of the advantages the process enjoys."

Dyke Cites Record

George E. Dyke, chairman of the council's board of governors, and president of Robert Gair Co., Inc., told the business section of the organization that in spite of an increase of over 50 per cent in pulp and paper production during the past 8 years the total volume and the pollution potential of waste from the industry has shown a steady decrease.

Officers re-elected were: Mr. Dyke, chairman; Clyde B. Morgan, Rayonier Inc., vice chairman; W. Irving Osborne, Jr., Cornell Wood Products Co., vice chairman; and J. D. Zink, Hammermill Paper Co., treasurer. New board members: Reuben Robertson, Jr., Champion Paper & Fibre Co.; Frank N. Youngman, Crown Zellerbach Corp.; and Roy V. Weldon, Great Northern Paper Co.

Materials Situation Outlined Paper Week

Continued materials shortages for this industry, but cooperation where cooperation is possible by NPA, were indicated by Merrill Russell, general attorney, U.S. Steel Co., to the materials committee of APPA in open meeting at thhe Waldorf Paper Week.

Mr. Russell pointed out that NPA's report of estimated supply for the second quarter of 1952 allocated only 1,000 tons of steel, 41,000 pounds of copper and 26,000 pounds of aluminum for distribution by the Pulp, Paper and Paperboard Division. This Division of NPA must determine who in the industry shall get materials, and how much.

The only recourse where industry members are hurt by the restrictions is to file application for relief. He said that of 160 requests received from the pulp and paper industry which had been processed, only two had been refused. He said the procedure for filing applications was to file Form-78 with local district NPA office accompanying with a letter stating the requirements and clearly specifying why the material is needed.

On new construction, he emphasized that industries such as this must wait for greater availability of materials before new construction can begin, and that restrictions for the third quarter of 1952 may be greater than those just announced.

Second quarter allotments for machinery and equipment make it necessary to secure an NPA priority based on definite need and the end use for which the equipment is desired. It was recommended that application for such priority should come through the district rather than the Washington NPA office, because of the ability of those closer to the scene to make better judgment of the hardship involved.

In response to questions, he said that new construction was defined under NPA within the normal understanding of the term and as applied by companies in normal accounting practices relating to capital additions. He said it was impossible to judge the necessity for NPA, CMP and allocations outside the administration, because only the administration knows the actual requirements of the defense program for steel. And he pointed out that use of CMP and channeling of requirements sets up a pattern of distribution entirely different than what would exist without control.

In defining "hardship," Mr. Russell said that equipment and materials designed to decrease manufacturing costs or to increase output were not grounds for granting relief. Equipment that is usable, even though obselete, can not be replaced under the hardship clause.

There is a definite trend in NPA toward decentralization of responsibility, according to the U.S. Steel man. NPA district offices are being staffed to handle priority and hardship applications, and he recommended that industry members use these offices rather than going to Washington with their appeals.

ACTIVE PARTICIPANTS in Paper Week doings were Miss Alice Krieto (left), associated with APPA's executive office since 1940, and Paul W. Schoen, who recently was named Washington Representative for APPA.

Mill Sponsors Luncheons To Aid Public Relations

Something new in public relations has been introduced in Canada by Westminster Paper Co., manufacturer of tissue and specialties in New Westminster, B.C.

The company, headed by President E. M. Herb, is sponsoring a series of luncheon meetings across Canada at which experts on trade and industry will speak, emphasizing the solid foundation for continued business activity on a profitable basis in Canada.

'It's a selling job for our country as well as our company," explained Mr. Herb. "We are convinced that if there is pessimism in buying circles anywhere in Canada it is based on misinformation or a lack of knowledge."

Westminster Paper Co., whose market extends from the Pacific Coast to Newfoundland, received reports indicating some buyers feared a recession. Westminster set out to counteract this influence by telling the truth. The meetings were initiated at Vancouver by an address by a provincial deputy minister of trade. Men holding equivalent offices will address meetings across the country.

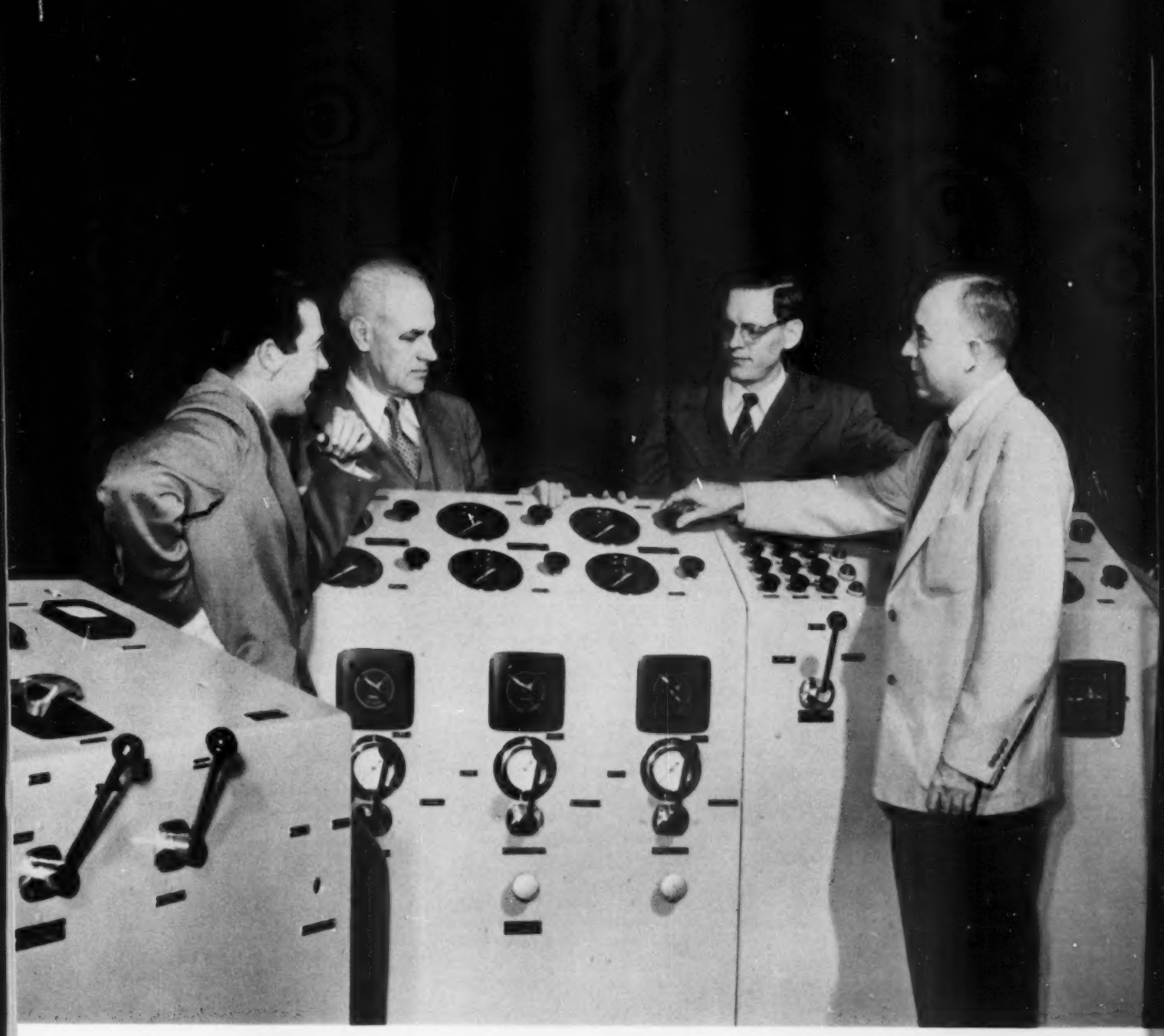
FATHER AND SONS OF MACKLEM TRIBE

These pictures, taken at different locales in the country by PULP & PAPER editors, are interestingly similar glimpses of members of a well-known paper industry family. Left to right, they are: WILLIAM W. MACKLEM, and his sons, WARREN W. MACKLEM and HAROLD G. MACKLEM. Father "Bill" was for years an ace Sales Engineer for The Black-Clawson Co., and now lives in retirement in Hamilton, O., but occasionally is persuaded to do a consulting service.

Warren is following in his father's footsteps. He graduated from Tri-State College, Angola, Ind., in 1935 and a few years later—in 1940—he joined Black-Clawson. For the past two years he has been a sales engineer.

Harold is assistant chief engineer at St. Regis Paper Co., in Pensacola, Fla., where he has been some time, active in expansion work since the war.

The Macklem children were born in Beloit, Wis. There an uncle is a high official in another machinery firm. A third son of Bill Macklem, Leonard, was an Army fatality in Europe in World War II.



COMPLETE CONTROL of each section of a high-speed, high-production paper machine helps cut operating costs. On the erection floor, Engineering Vice-President Lloyd Hornbostel (*right*) shows sales representatives Carl Swartz (*left*), Fred Erbach, and Don Schamp the features of a new control board to give operators quick, positive, accurate, convenient control of a calender and reel section.—*Beloit Iron Works, Beloit, Wis.*

WHEN YOU BUY BELOIT... YOU BUY MORE THAN A MACHINE!

BELOIT

PAPER MACHINERY

NEW PROCESS DEVELOPED BY VIRGINIA MILL

KRAFT SEMI-CHEMICAL PLANT

As usual, the alkaline pulping session of the annual winter meeting of TAPPI in New York in February was one of the big drawing cards of the week. Chairmanned by Henry Vranian, of Chesapeake Corp., of Virginia, it featured several discussions of the fast-expanding semi-chemical pulping processes, as they are applied particularly in the kraft industry.

A report by Dr. A. P. Yundt, technical director of Camp Manufacturing Co., Franklin, Va., on a new 50-ton plant constructed there where some new ideas in semi-chemical processing were developed, was of particular interest. So much interest was evidenced by delegates that PULP & PAPER checked with equipment firms participating in the development and found them also holding high regard for the demonstrated advantages in this kraft semi-chemical process as an important forward step in that field.

At Franklin, the gum hardwoods are straight kraft pulped for a diversity of papers. It was decided to reduce oak for 9-point corrugating medium by semi-chemical process.

Investigations of the batch process revealed weaknesses that encouraged investigation of the possibility of continuous semi-chemical pulping to permit savings in primary refining, investment, labor and steam, Mr. Yundt said. Continuous pulping, however, usually results in non-uniform cooking of chips. Use of phloroglucinol groundwood test reagent demonstrated this. To develop a process which would link advantages of both processes batch and continuous this procedure was planned:

DR. A. P. YUNDT, who described new kraft semi-chemical plant at Camp Mfg. Co., Franklin, Va.

1. Air is driven out of the chips by presteaming at atmospheric pressures.
2. Steam is then displaced by dilute kraft white liquor and soaked about 4 hours.
3. Liquor is drained—in some cases recovered and re-built to strength for other batches.
4. Drained chips then go into conventional continuous semi-chemical pulping equipment through a rotary valve. Cooking time can be reduced because penetration has already been achieved.

After laboratory testing, Camp designed and built a 50-ton per day pilot plant. Equipment was partly made from corrosion-resistant materials. Steaming and soaking operations are done in leach casters with perforated false bottoms of stainless steel. Casters were used instead of towers to provide flexibility should changes prove necessary.

Equipment and procedure includes: Continuous movement of presteamed and soaked chips from one of four soaking tanks past a magnetic separator to the rotary-feed-valve hopper. This feeds the cooking chamber, a horizontal tube 33-inches by 22 ft., and containing a double-flight screw. There is a gravity flow to a smaller screw which feeds an Asplund defibrator. This system, from valve to blow point was designed by American Defibrator. Crude fiber from the defibrator is cycloned, washed with black liquor, then provided secondary refining in a 48-inch Sutherland refiner where blow steam is used to bring the temperature over 200° F. Refining is followed by washing in a 2-drum 4-stage Swenson vacuum washer.

Although first runs through the pilot plant were with gum chips, Mr. Yundt said that the operation is gradually being changed over to oak, which requires more cooking chemicals and more refining.

In the pilot operation on gum, chips were steamed 20 minutes, soaked in diluted kraft white liquor for 4 hours at 180° F, and the drained chips cooked for 12 minutes at 110 psig. Mr. Yundt said excellent defibering was accomplished with only 5 hp days per ton. Yield ran an estimated 73%. The Camp experience indicates high soaking temperatures are required to (1) reduce soaking time, and (2) permit uniform penetration of chip fibers. Findings show screening and refining rejects will return a shive-free pulp with good color—equal to pine kraft pulp if 9.5 ph is observed in cooking. Lower pH readings make for darker color. Presteaming and soaking so loosens the fibers there is little breakage in defibrating.

In addition to use of this pulp for corrugating, Mr. Yundt said it might be satisfactory for toweling if strengthened with other pulps, and might be used in small proportions in light duty bag papers.

HERE ARE A FEW PERSONS, for a change, who seldom have had their pictures snapped at Paper Week—Top row l. to r.: I. E. SIMERL, Marathon Corp.; DR. JOSEPH ATCHISON, Chief, Pulp & Paper Branch, ECA; HENRY ALLISON JR., Container Corp of America; VAL WEILER, a digester corrosion man from A. O. Smith Corp., Milwaukee; R. A. DAVIS, Chicago Bridge; CHARLES BROWN, who heads up International Nickel alloy sales to pulp and paper. Below, l. to r.: HERBERT S. TEEPLE, Corrosion Engineer, Development & Research, International Nickel; Mr. Brown (above); R. D. FABER, in charge of Tech. Service and Research for pulp and paper in INCO; AL LANDERS, who cover South for Eastwood-Neally; C. S. HEUSTIS, Mgr. of Containerboard Production, Robert Gair Co. Inc.; ALBERT DYSON, Nichols Engineering, and DICK SINCLAIR, Co.

U. S. STATISTICS IN A "NUTSHELL"

New production and consumption records, all down the line from tree to paper or rayon and acetate, were set in 1951. Here are some of the highlights of United States industry statistics for 1951 as compared with 1952 (from U. S. Pulp Producers Assn.):

Receipts of pulpwood *up 24%* from 22,544,669 to 27,862,230 cords.

Pulpwood consumption *up 12%* from 23,627,217 to 26,575,934 cords.

Waste paper consumption *up 14%* from 7,956,036 to 9,078,879 tons.

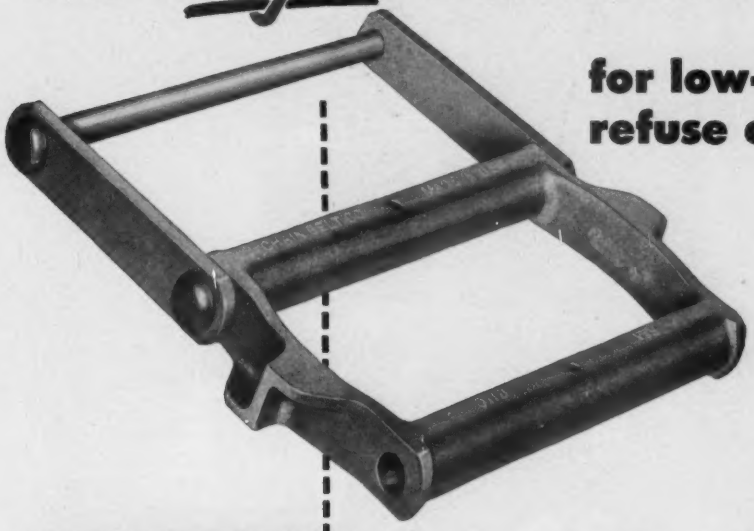
Total paper production *up 7%* from 24,377,222 to 26,086,115 tons. This was almost evenly divided between paper and paperboard in both years—in 1951 it was 13,022,308 tons of paper, 13,063,807 tons of board. The total is *twice* the 1939 figure.

Woodpulp capacity *up 9%* to 17,687,662 tons, and production *up 11%* to 16,494,386 tons. Imports down *only 4/10 of a percent* to 2,375,330 tons and exports up *105%* (doubled) but still only 196,000 tons. Consumption of woodpulp *up 7%* for paper and board to 17,703,944 tons, for non-paper uses *up 12%* to 780,000 tons.

Dissolving or high alpha pulp production was *up 29%* to 616,802 tons. Market woodpulp production in U. S. was *up 15%* to 1,897,931 tons but imports were *down 3%* to 1,859,342 tons.

The Right Combination

for low-cost refuse conveying



Side view, notice the heavy wearing shoes on the edges of the side bars of the *invertible* block link; and the shoe reinforcement, or rib, which also serves to move material. Barrels contain large grease chamber. There is added metal behind the rivet which lengthens chain life.

For a better job of conveying sawdust, refuse, wood chips and similar material, Rex® has developed the new Combination-Type Mill Conveyor Chain No. 6110. It is the ultimate in H-type conveyor chain . . . far superior to the ordinary H-type chain which it is designed to replace.

Block links of malleable iron or Rex Z-Metal, and side bars of high carbon steel give this chain the toughness to stand up under long, hard, continuous service. Rivets are specially made to reduce possibility of breakage resulting from momentary overload and corrosion fatigue.

Here's a chain that is sure to slash overall refuse handling costs. It can be run over the same sprockets as ordinary H-type chain. Your Rex Field Sales Engineer is anxious to give you the complete story. Call him today, or if you prefer, write to Chain Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis.

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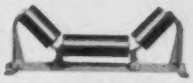
Rex H-Type Drive Chain

Rex Chabelco® Chain



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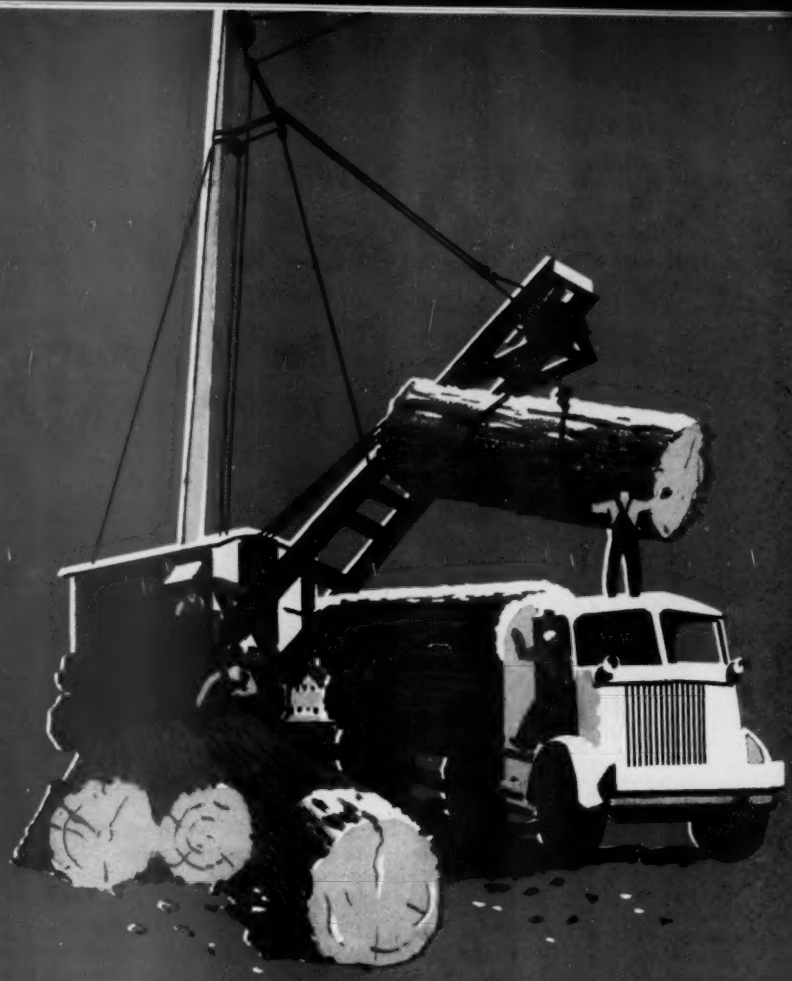


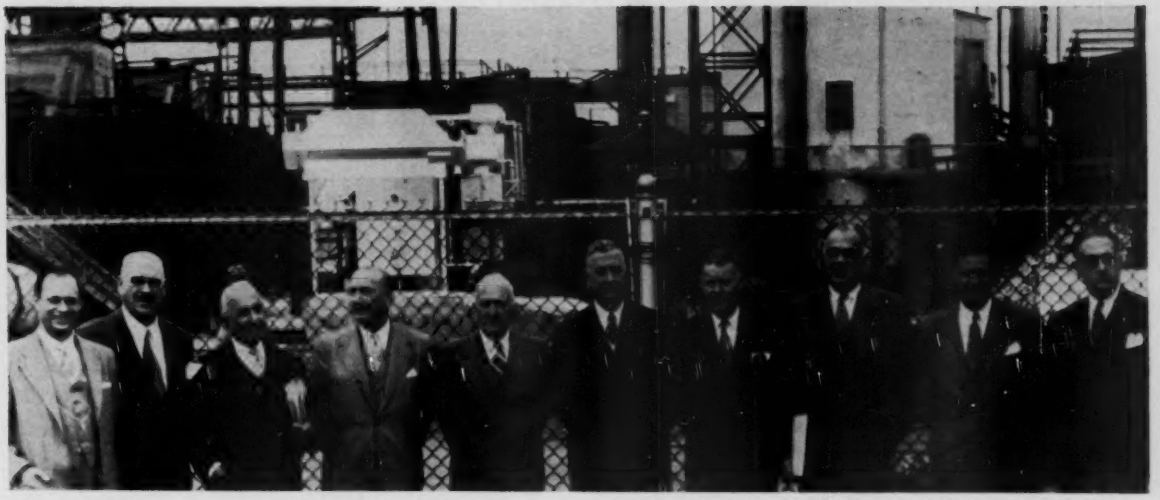
FOREST RESERVES

Puget Sound owns or controls extensive timberlands in the Pacific Northwest, and its operations extend from the felling of the trees to the final delivery of finished pulp. Every log is completely utilized; modern hydraulic barkers and chippers result in reducing waste in wood utilization by 20%, and wastes are fully utilized in the alcohol and by-products plants.

PUGET SOUND

PULP AND TIMBER COMPANY

BELLINGHAM • WASHINGTON



MEMBERS OF BOARD of Rayonier Inc. at regular quarterly meeting at the company's Fernandina Division (Florida) plant. From left, are: Arthur Ross; William T. Gardiner; Samuel Gottesman; Harold Zellerbach; Morton H. Fry; Rayonier President Clyde B. Morgan; Chairman of the Board William A. Parker; Junius A. Richards; Ira D. Wallach; and General Counsel Chester Rohrlich. J. D. Zellerbach also attended the meeting but is not shown in this picture. This is one of a series of meetings which have been held by the board at various Rayonier divisions.

SCHOENWERK VIEWS MgO

A FLORIDA REUNION

JAMES BRINKLEY (left), Seattle representative for Midwest-Fulton, Nash Engineering, Warren Steam Pump and other lines, is shown here with an old industry associate, OTTO C. SCHOENWERK (right), builder of many mills and major industry installations, who is now living at the Everglades, Biscayne Bay, Miami, Fla. Mr. Schoenwerk, consulting engineer for Weyerhaeuser, Hammermill, KVP and other companies, is semi-retired. He was engineer-designer of the first MgO sulfite pulp and recovery commercial scale plant in the industry, built at Longview, Wash., by Weyerhaeuser.

Otto C. Schoenwerk, former consulting engineer for Weyerhaeuser, Hammermill, KVP and other companies, now living in semi-retirement at Hotel Everglades, Miami, Florida, drives his car and gets around remarkably well despite a circulatory leg operation. He is as energetic as ever, and able to do some limited advisory work.

As designer and builder of the first and only commercial scale magnesia base sulfite pulping and recovery plant in the industry, at Longview, Wash., he is keenly interested in plans for more MgO plants—the one projected for Ketchikan, Alaska, on which building is starting, and others.

This is the way Mr. Schoenwerk, who worked on the MgO problems for many years, sums up its advantages:

1. It provides lots of steam cheaper than other fuels. He figures it is possible to get 71 per cent of steam requirements.

2. With high pressure boilers, a mill can get most of K. W. required.

3. It provides strong acid for cooking with use of less steam, due to heat recovery.

4. There is no lime rock to bother with, to towers—"a job no one wants these days."

5. Better washed pulp results, without labor of blow pit washing and loss of sulfur due to sewer losses.

6. Saving of sulfur is effected—important in present short supply situation.

7. Better washing helps bleaching and saves chemicals.

8. Recovery of chemicals saves more than the cost of the materials.

9. And, of course, the liquor effluent is utilized.

His advice to builders of new MgO plants is:

"Evaporation should be of ample capacity and furnace area larger than may seem sufficient, in order to ease work. The evaporator is a hard nut to crack. Stainless should be Type 306 or 307. It is necessary to check carefully the acidity at evaporator and not load up on MgO carry."

Mr. Schoenwerk said he was grateful to the Weyerhaeuser Timber Co. for "allowing him a free hand to try out a great many ideas" in all the work he did for them. He recalled that he began working on the MgO problems when he was building the Everett, Wash., Weyerhaeuser sulfite mill over 16 years ago.

Morden Discusses South America Mills

Visitor in New York during Paper Week was Burke Morden, Jr., president of Morden Machines Co., who with his wife had just returned from a five-weeks' trip through Latin and South America, visiting pulp and paper mills. Much of the time was spent with Parsons & Whittemore men in Brazil and Argentina, who represent Morden there, visiting new and old mills in these countries.

Mr. Morden reports that while there is not much new mill activity in South America, old mills are being extensively modernized, one being Cellulosa Argentina at Buenos Aires. There are many smaller type mills in these countries, Brazil now having about 60 mills as compared with only 15 mills operating 10 years ago. Much of the new equipment is coming in from Europe, Mr. Morden says.

Countries visited by the Mordens also included Mexico, Guatemala, Panama, Peru and Chile. In Guatemala they visited with Mitchell Thom, former superintendent in the Pacific Coast industry, and in Mexico, who is leaving a lemon grass paper, which he started up in Guatemala, and returning to Victoria, B. C.

Celanese Sees Pick-Up Coming in Textile Market

Dissolving pulp manufacturers may take cheer from a forecast by Harold Blancke, president of Celanese Corp. of America, that the slumping textile industry, important market for dissolving pulps, "will soon be in a position to go forward again."

Second quarter, like the first, may continue weak compared to 1951, he said, "but there are currently signs of betterment. He blamed the slump on the changeover to defense economy. His forecast was in the Celanese annual report published in March.

Personals

MIDDLE WEST NOTES

HOWARD PALMER, production manager of the Neenah, Wis., mill of Kimberly-Clark Corp., reached his 25th year with the company Feb. 11. He was first employed at the Kimberly mill when *J. T. WHALEN*, now chief engineer of the company, was chief construction engineer. Graduate of U. of Minnesota, born in Spirit Lake, Iowa, Mr. Palmer has supervised building of a number of paper machines and plants for K-C, was plant engineer and assistant manager at Lakeview mill, now consolidated with Badger-Globe in the Neenah Mill.

DAVE EMERSON, former plant engineer at Niagara, Wis., for Kimberly-Clark, has been transferred to the Neenah, Wis., mill as personnel superintendent. He was born in Oxford, N. Y., graduated from Northwestern U. He has been in mill and machine construction work for K-C since 1940. He succeeded *ED PAGE* at the Neenah mill who was transferred to industrial relations in Neenah headquarters.

HERBERT W. SUTER, JR., general sales manager of The Champion Paper & Fibre Co., Hamilton, O., is enrolled in the Harvard University advanced management course. The course was recently completed by *DWIGHT J. THOMSON*, Champion v. p. in charge of industrial and public relations, and *HENRY RIGBY*, assistant to the president.

LEO J. MAURER, vice president and the sales manager of the corrugating department of Consolidated Paper Co., Monroe, Mich., since 1929, died recently.

ROBERT J. McDADE has been appointed personnel manager of The Crystal Tissue Co., Middletown, O., and will handle its industrial relations and employe programs, announces *L. J. LONG*, vice president. Mr. McDade won a field army commission in the Battle of the Bulge in World War II.

DAVE EMERSON, plant engineer, *WILLIAM GRONERT*, master mechanic, and the entire engineering department staff of more than 200 at the Niagara, Wis., mill of Kimberly-Clark were last reported working toward three straight years without a disabling accident.

MAJOR WILLIAM BECKETT, executive vice president of Beckett Paper Co., Hamilton, O., is on active duty with the Air Force as intelligence officer for the 43rd Bomb Wing stationed at the Davis Monthan Air Force Base in Tucson, Arizona.

F. B. CURTENIUS, treasurer of the Kalamazoo Paper Co., is new chairman of the advisory committee on the pulp and paper curriculum at Western Michigan College. He succeeds *ERNEST E. LUDWIG*, vice president of Bermingham Prosser Co., who becomes public relations chairman. Also retiring from the advisory committee was *R. C. GERMANSON*, chemical engineer with the Kalamazoo Vegetable Parchment Co. *DWIGHT STOCKER*, president of the Michigan Paper Co., a new appointee to the advisory committee, was named vice-chairman. Also new on the committee is *JOHN WOOD*, KVP executive vice president.

GEORGE A. FARRAH is general manager of the Tomahawk, Wis., box plant of National Container Corp. Mr. Farrah has been with National Container over three years.

"MAC" MALCOLM HUNGER, former head of the publications section of Kalamazoo Vegetable Parchment Co.'s industrial relations department, has joined Minneapolis-Honeywell Regulator Co. in Minneapolis, where his duties include a variety of work as assistant to the public relations director.

JOHN GERHAUSER, technical director of Appleton Wire Works, Appleton, Wis., explained the process of wire cloth manufacture to the Lions Club there. He told of the new wire manufacturing plant being built by the company in Montgomery, Ala., previously announced in PULP & PAPER. It will have looms 272 inches to 324 inches to serve the growing Southern industry.

FLETCHER DESAUTELS, of the sales division, KVP, Parchment, Mich., graduated from the engineering construction surveying course at Fort Belvoir, Va., with top honors and has returned to army forces in Texas.

ANTONE HORSTMAN was recently appointed manager of laboratory operations at The Bauer Bros. Co., Springfield, O. He is in charge of both the pulp laboratory and the feed and milling laboratory. He was process engineer for Weston Paper Co., at St. Marys, Ohio, and afterwards at Terre Haute, Ind. More recently he was senior process engineer of American Maize Co., Roby, Ind.

R. T. ELIAS, an experienced paper mill chemist formerly with Detroit Sulphite and Whiting-Plover, has been added to the faculty of the pulp and paper curriculum of the chemistry department of Western Michigan College. He will assist Dr. Alfred H. Nadelman, head of the curriculum.

MARTIN GALBRAITH, technical director of Sutherland Paper, presented a new ink rub tester to the pulp and paper school at Western Michigan College as a gift from Sutherland.

THE VERDONS OF KAZOO

THIS FATHER-AND-SON COMBINATION form a well known team in the Middle West industry. JIM VERDON (left) is Sales Mgr., and his father, L. R. VERDON (right), is Resident Mgr., of American Cyanamid Co. in Kalamazoo, Mich. Their plant in Kalamazoo is the biggest producer of waxed sizes in the American Cyanamid organization.

Mahony Elected Exec. V.P. Of Appleton Coated Paper Co.

R. W. Mahony, vice president and general manager of Appleton Coated Paper Co., was elected executive vice president and general manager of that Wisconsin firm. The board left the presidency vacant. Former Pres. Charles S. Boyd died Jan. 27. Mr. Mahony, graduate of Marquette in 1922 after World War I service, joined the company in 1917 and returned after graduation.

Herman B. Berge of Chicago, was re-elected a vice president. E. S. Colvin, sales manager, was elected a vice president. John P. Reeve, formerly assistant secretary, was elected vice president and assistant treasurer; M. D. Weyenberg, was re-elected secretary; and Percy Menning formerly assistant treasurer, was elected treasurer and assistant secretary.

Elected to the board of directors to fill the vacancy caused by the death of Mr. Boyd was Lyle M. Spencer, Chicago. Other board members are Karl E. Stansbury, William Buchanan, Mahony, Berge, Reeve and Weyenberg.

Silvernail Succeeds Lee Clack in Dow

H. L. (Lee) Clack, who during the past year has headed the paper section of the coatings technical service for Dow Chemical Co., Midland, Mich., has joined the staff of the company's new export subsidiaries, Dow Chemical Inter-American Ltd. and Dow Chemical International Ltd. He will remain in Midland in his new duties following a training course.

Lloyd Silvernail has been appointed to succeed Mr. Clack as head of the paper section of the coating technical service. He was named by Norman R. Peterson, who is manager of coatings technical service. Mr. Silvernail, graduate of N.Y. State College of Forestry, Syracuse, 1942, was previously in the paint section for a year and prior to that served 6 years in Dow's cellulose products department.

A Review of Expansion By Kimberly-Clark

The 80th anniversary of the founding of Kimberly-Clark Corp. is recognized in the current issue of the company's employe magazine.

The cover features 80 "birthday anniversary" candles. The lead story points up "American enterprise at work," illustrated in Kimberly-Clark's expansion since 1947, when it observed its diamond jubilee.

Pictures mark expansion of Memphis, now a 3-machine mill and awaiting the advent of a fourth this summer, LongLac Pulp and Paper Co. Ltd., Terrace Bay, Ont., which started production in 1948, now producing 60 more tons a day than it did at the start-up, Kimberly, Wis. mill's new materials handling equipment, a new clay handling program and new stock systems, and at Kimberly a paper machine is to be rebuilt this year. During the last five years, the biggest paper machine of its kind was erected at the Niagara mill, a new creped wadding machine doubled capacity at Kimberly-Clark of Canada, Ltd., at Kapuskasing, new newspring mill was built at Coosa Pines, Ala., a new 6-story warehouse and water treatment plant was built at Neenah mill, a 5-story warehouse was constructed at Niagara Falls, N. Y., an aviation division was added to the traffic department, a Sales Promotion Center was opened west of Neenah, a new subsidiary was added with purchase of control in Munising Paper Co. in Michigan.

EASY ON FLOOR SPACE

PAPER STOCK PUMP

New VERTICAL PUMP SAVES SPACE, CUTS INSTALLATION COST

LESS THAN ONE QUARTER AS MUCH FLOOR SPACE is required for this new Allis-Chalmers Vertical Paper Stock Pump as is required for a horizontal pump of the same capacity. Installation costs are less, too, since foundations are smaller. No alignment of pump and motor shafts is required because unit is factory assembled and coupling is of short coupled, universal joint type. Accessible stuffing box makes packing easy.

The vertical design has certain other important advantages. Stock feed into the eye of the impeller is accelerated by gravity which improves suction conditions. All sizes are fitted with 16-inch suction nozzles for reduced friction and better feeding. As a result, air binding is practically eliminated and heavier stocks can be pumped without difficulty.

GET ALL THE FACTS

You can get complete information from engineers who really know their paper stock pumps by contacting your nearby Allis-Chalmers District Office or by writing Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3464

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

PROGRESS AT HUDSON

FIRST DETAILS OF NEW INNOVATIONS

WILLIAM MAZER (left), Exec. Vice Pres. of Hudson Pulp & Paper Corp. JOSEPH MAZER (right), Treasurer of the company.

JACK MAZER (left), President of Hudson Pulp & Paper Corp., says: "It's this way, Governor!" Standing by a Mason-Neilan control board for the dryer section of the new paper machine, Mr. Mazer is explaining things to GOVERNOR FULLER WARREN of Florida.

A number of new innovations and new types of equipment feature the recently started-up $10,000,000 addition to the Southern Division of Hudson Pulp & Paper Corp., at Palatka, Florida.

To bring PULP & PAPER readers this first detailed description of these new features and new equipment in the mill, and the exclusive pictures shown with this article, the new unit was recently visited by a PULP & PAPER editor. It is all that had been anticipated for many months. Most of the new features were aimed for higher speeds—the No. 1 goal of many mills these days.

Hudson's Southern Division was built up from the ground, in the midst of the brahma cattle and pine tree flatlands of northern Florida, just an easy drive south of Jacksonville. The first unit started making paper Nov. 4, 1947 and now, in just a little over four years, production has been doubled.

With investment brought up to $22,000,000, output has been boosted to 400 tons daily of unbleached kraft. About 85 per cent is converted at Palatka into wrapping, tape, bags and specialties and the rest goes to northern Hudson mills. Also at Palatka is an almost new 15-million-a-month bag machine plant—just a little over a year old.

A 236-inch Pusey & Jones Yankee Fourdrinier machine is principal new unit. It is capable of producing both machine-finished and machine-glazed papers, and has a General Electric electronic Amplidyne multiple generator sectional drive. Over 2,000 hp. of DC motors drive the machine.

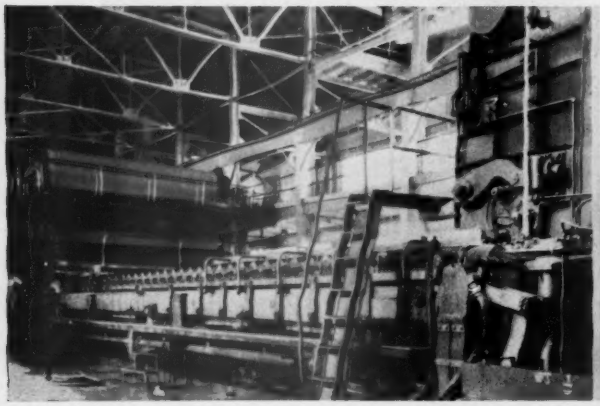
This is third machine in America having a suction pick-up—suction transfer arrangement—which is credited with boosting speeds and production of some new machines to record marks.

Stock Preparation

Features of a stock preparation room, laid out for both continuous and batch-colored stock systems, is arranged for speedy changeover. Here are two new Noble & Wood multi-roll controlled flow Victory beaters, each for 150 tons continuous treatment. A Victory Beater for the first unit at Palatka has had no shutdowns for mechanical difficulties, and shows little wear. No other refining comes from screen stock chest. Each triplex unit has capacity of continuous stock flow of

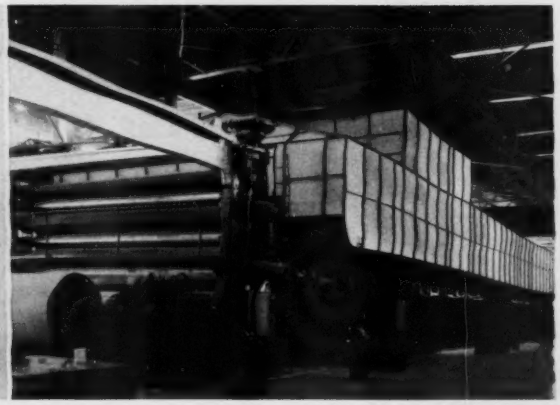
PUSEY & JONES MACHINE WET END

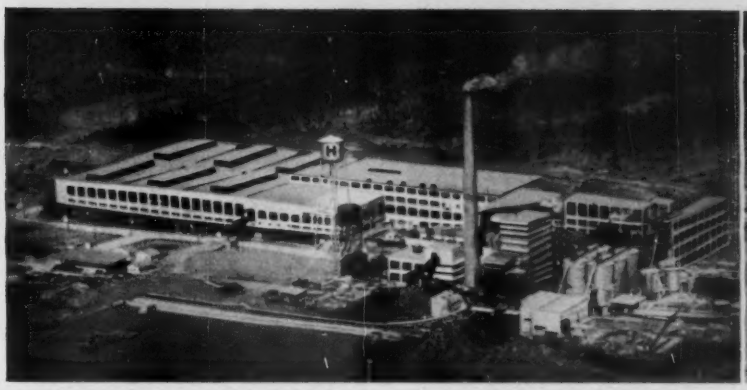
This 236 inch Yankee Fourdrinier machine at Palatka Mill is second in four years, but it has many unusual improvements. Expected to make 180 tons a day of 25 and 30 lb. kraft.



DRY END—NEW TYPE ROSS PANELS

Ross Engineering installations are outstanding in South—new type panels for easy access to Yankee and new Yankee supply nozzles. Pusey & Jones provided new special striping roll, other features.





GENERAL VIEW OF PALATKA, FLORIDA, Mill of Hudson Pulp & Paper Corp. New Pusey & Jones Yankee machine and other auxiliary equipment have many new features for the South. Speed is the goal. This is the first story published describing the new Hudson additions in detail, with PULP & PAPER's own pictures of equipment.

BACK SIDE of new No. 2 Machine at Hudson Pulp & Paper Corp. in Palatka. It has General Electric electronic Amplidyne multiple generator sectional drive with Farrell-Birmingham reducers.

1,000 g.p.m. and production of 200 or more tons.

After the beaters are four of the first of the new Noble & Wood Unifiners which are, in effect, parallel finishing jordans, of 75 tons capacity each. Three are capable of serving the machine, with one as a standby, as each is an independent operation and not operating in series. They are fed by one common pump through a header with individual pressure lines through the inlet. Unifiners discharge by gravity. Uniform high tests and high freeness obtained are credited with aiding machine speed.

Details of New Machine

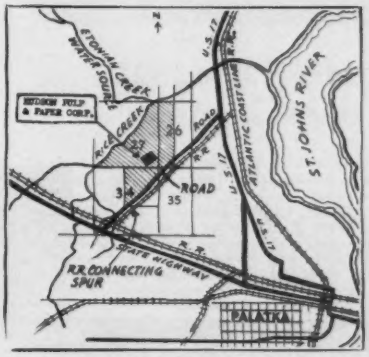
The new machine should do nearly as well in lightweights—perhaps 180 tons a day in 25 and 30 lb., some at 35 lb. As for more detail on this machine:

Beloit Iron Works supplied an air-cushioned inlet, the new type suction pickup-suction transfer arrangement and a Cloverleaf-type press, which takes the place of the conventional dual press in less space.

In the pick-up and press part are four Beloit suction rolls, including two in the clover-leaf arrangement already mentioned. There is a 26 in. pick-up roll, and a 36 in. transfer roll—then the two lower 36 in. main press rolls in the cloverleaf press with the top 60-in. center roll.

This is the first machine in America to have the suction pickup in combination with a Yankee dryer. The suction pickup of a sheet from the Fourdrinier wire of which the industry has heard a great deal recently, is not a new development. However, the recent installations of the patented Beloit suction pickup and suction transfer arrangement have marked the first successful application of the suction pickup principle to high speed machines. Open draws in this portion of the machine are eliminated by taking the sheet from the wire on the pickup felt and by suction transfer of the sheet to the felt which carries it through the Beloit Cloverleaf press.

A smoothing press is between first and second dryer sections. The 12-ft. Yankee



is between the second and third.

In the Cloverleaf arrangement, the 60-inch top center roll is Self-Skinner composition covered by the Manhattan Rubber Div., Raybestos-Manhattan Inc.

Stowe-Woodward Inc. rubber-covered the other two lower 36 in. press rolls in the Cloverleaf arrangement, also the smoothing press. Some 68 rolls in all were covered by Stowe-Woodward.

A 42-in. receiving dryer is arranged for creping. The dryer section consists of 35 paper and 14 felt dryers, all 60 in. The smoothing press may also be used for striping. The Yankee is equipped with a special striping roll. The Yankee is by-passed on MF grade. There is a single calender stack and Pope reel, and Pusey-jones winder.

The machine itself has a theoretical design speed limit of 2,000 fpm. but many other factors, of course, will limit this. The Fourdrinier part is 236 inches wide and 130 ft. long, trimming at 212 and 216 on most grades. Because of width and speed designed for lightweight kraft, the breast roll, operated by hydraulic lift, is 34 in. diameter. Table rolls are 12½ in., suction couch, 42 in. Wire change is with an improved Puseyjones Rapidrape system including Hydro-motor unit, as described, on the breast roll.

A Trimbey regulator is ahead of the machine. SKF roller bearings are on all rolls except table and breast rolls and reel cores, which are Timken. An overhead Whiting crane serves heavy lifting. There is a new Midwest-Fulton drainage system and Nash vacuum pumps serve the machine, as well as Bird felt conditioners. A 20,000 g.p.m., 500 r.p.m. fan pump is by Worthington. Farrell-Birmingham supplied reduction gears for the G-E drive.

Mason-Neilan Regulator Co. supplied automatic temperature controls for drying, as well as pneumatic loading stations for presses, reel and calender stacks. There are four Model 16M Hannah engineering works cylinders used on the pneumatic lifting arrangement and for maintaining correct pressure for upper rolls.

Elsewhere in the mill, Mason-Neilan also supplied temperature, pressure, level and flow instruments and valves for this mill's new stock washing, evaporating systems, chemical recovery, and automatic steam admission time temperature program instruments and gas relief systems for its five new ten-ton mild steel digesters, which bring the total to 9 digesters.

Extensive Air System

The new J. O. Ross Engineering Corp. installations are outstanding in the South. The air system is in ten parts: Hood and exhaust; Yankee supply; bottom felt supply, heating and ventilating; calender cooling, trim conveying; summer ventilation; air makeup; control room ventilation and washer hood and exhaust.

The hood is of standard asbestos sheet panels with angle iron frames but panels at the Yankee are designed for quick and ready access. The Yankee supply utilizes new double impingement improved nozzles. An automatic filter opposite the control room draws air for felt supply, so it serves two purposes. Spill dampers permit discharge of felt air into basement during maintenance or repairs, but the control room would continue properly ventilated.

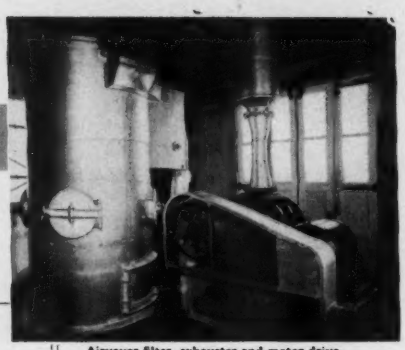
Heated air to the roof prevents condensation and prolongs roof and equip-

ever consider MOVING chemurgics* BY AIR?

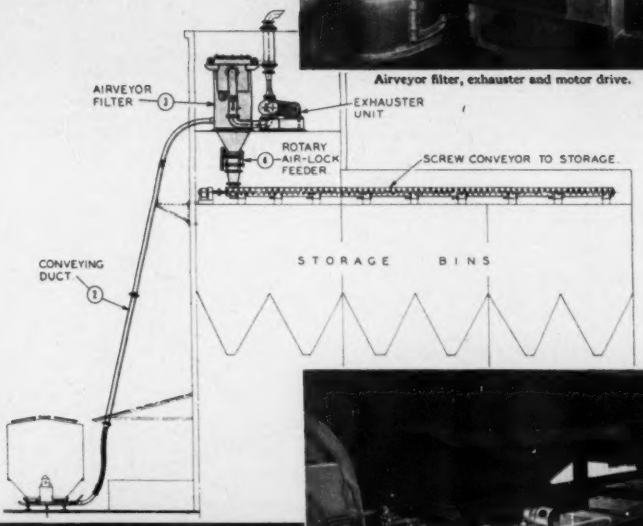
*(for example—starch)

The AIRVEYOR®

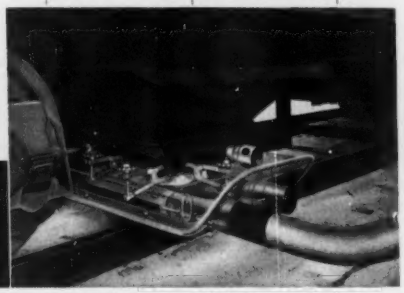
Unloading starch from hopper car to plant. Flexible hose connection between twin-nozzle and conveying duct to Airveyor filter in the building.



Airveyor filter, exhauster and motor drive.



it's Cheaper—Safer —More Efficient



Twin-nozzle arrangement for hopper-car unloading.

The Airveyor in your plant is like having the shipper deliver right to your storage bins. And it goes a step better than that! The Airveyor not only unloads and conveys from car to storage, but a flip of a switch delivers your material direct from storage to process. And while it's being efficient, it's also saving you money.

The Airveyor pays for itself in a relatively short time. It saves the difference in cost between bag and bulk shipment, and also lowers the cost of handling and storage. Labor costs are reduced because the Airveyor requires the attention of only one man. Important from the safety angle is the fact that dusting has been eliminated.

Maintenance time and costs are negligible because there are very few moving parts. The system can be blown clear of all residue. Retention of all visible dust is assured.

Installation of this better method of handling starch, soda ash, lime, salt cake, clay, or other dry pulverized materials will prove of great advantage to you. Why not consider Airveyor's possibilities in your plant? Without obligation, a Fuller engineer will analyze your present conveying system and show you how the Airveyor can help in your operations.

Fuller

DRY MATERIAL CONVEYING SYSTEMS AND COOLERS—COMPRESSORS AND VACUUM PUMPS—FEEDERS, AND ASSOCIATED EQUIPMENT

FULLER COMPANY
Catasauqua, Pennsylvania
Chicago 3—120 So. LaSalle St.
San Francisco 4—420 Chancery Bldg.

A-124

ment life. Trim conveying system is unique in that it is the first system with injectors mounted vertically instead of horizontally.

Summer ventilation provides air into the working areas, and the egg crate outlets permit the operators to direct the air in any direction.

The washer hood and exhaust covers are similar to the paper machine hood, except stainless steel countersunk machine bolts are used for attaching the asbestos sheets to the frames.

Woodyard and woodroom facilities are doubled with another Fibre Making Processes barking drum and a second 10-knife Carthage chipper, and three new Kalamazoo Tank tile chip silos.

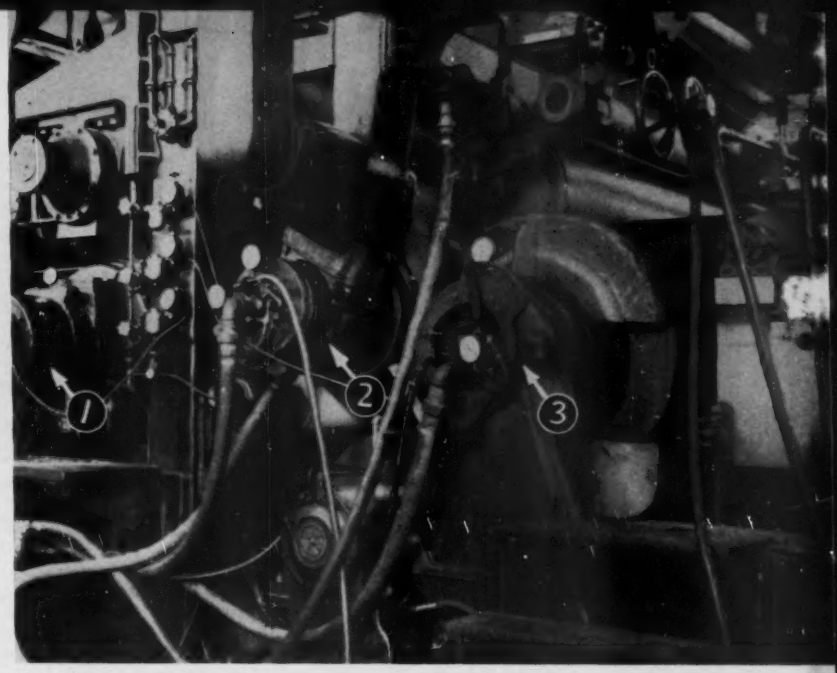
Digesters have Fibre Making Processes heaters, strainers and pumps for indirect cooking, FMP turpentine and blow steam recovery. There is a new blow tank with Fibre Making pressure and vacuum relief valve, IMPCO agitator and tramp iron trap, three new 8 x 12 ft. IMPCO counter-current brown stock washers, and IMPCO vibratory knotters. IMPCO defoamers are supplied.

A new W. D. Taulman & Associates water treatment plant, not included in the original installation, has been added, which has capacity of 12 million gals. per day.

A new sextuple effect Swenson evaporator unit supplements the existing quintuple long tube Swenson evaporator.

A new 250-ton Babcock & Wilcox recovery boiler has been added to the previously installed B & W boiler and also with Cascade type evaporator.

A new additional "Koppers-Elex" precipitator is designed for a normal flue gas volume of 102,000 c.f.m. at a flue gas temperature of 325° F. and a flue gas pressure at the precipitator inlets of approximately 10 inches W.C. below atmospheric pressure. The precipitator is to recover 90 per cent of the soda salts entrained in the flue gases. Of particular interest is the fact that the induced draft fan of the black liquor fired recovery boiler is located after the precipitator. Although the same procedure was followed in the initial installation, at Palatka, nevertheless, the total number of installations of this type in the paper industry are limited. The fan stays cleaner longer than if it were to operate in raw gas ahead of the precipitator.



HERE'S MUCH-DISCUSSED SUCTION PICK-UP

First Photo Published of New Arrangement

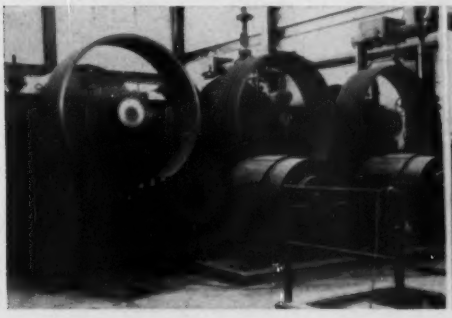
Credited with boosting speeds and production, the suction pickup-suction transfer arrangement has been installed so far on only a few machines—this one at Palatka is first in combination with a Yankee Fourdrinier. In a previous issue we reported new use of this arrangement at Crossett Paper Mills, where a speed of 1,925 f.p.m. was last reported on Kraft wrap and bag paper—believed a world record for any paper other than tissue. Shown here, from left to right, on the Palatka machine are: 1—Beloit Suction transfer press. 2—Beloit suction pickup roll. 3—Beloit suction couch roll. Thus, open draws at this point are eliminated by taking machine from wire onto pickup felt and by suction transfer of sheet to felt which carries it through Cloverleaf press. In conventional design, sheet is blown off wire and the draw created a weakness for breaks. Most breaks have been at couch roll, according to Palatka papermakers.

The existing Dorrco causticizing plant is being expanded to provide additional white liquor required. New equipment includes a slaker, causticizing tanks, green liquor clarifier, green liquor dregs washer, lime kiln and Oliver lime mud vacuum filter.

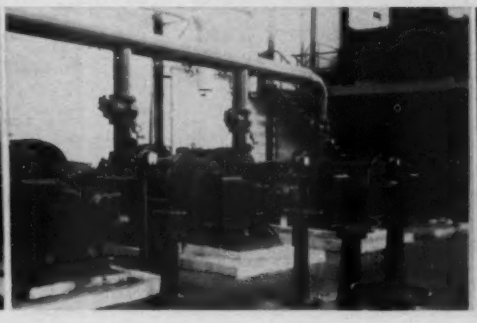
Power plant extension consists of a new oil-fired boiler and new refuse boiler, duplicates of existing boilers. A new type of Acme Brick Co. (ABCO) furnace installation at Hudson has attracted some attention.

In material handling improvements, it is notable that two Fuller Co. Airveyors have now been installed at Palatka. One is for unloading and reclaiming salt cake and the other for unloading and reclaiming pebble lime. The salt cake system unloads from box cars at 10 tons per hr. and delivers to old and new storage bins and conveys salt cake from a truck dump hopper to a new bin. The system reclaims from bins and delivers to mixer. The pebble lime system unloads box cars and delivers to lime bins at 7½ tons per hour

NOBLE & WOOD multi-roll controlled flow Victory beaters, each for 150 tons treatment, prepare stock at the Hudson mill in South.

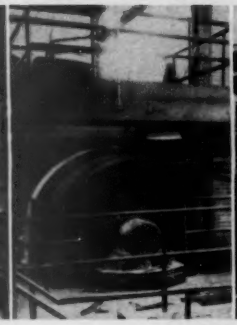


NOBLE & WOOD Unifiners which are, in effect, parallel finishing jordans, follow beaters in stock preparation at Palatka, Florida, mill.

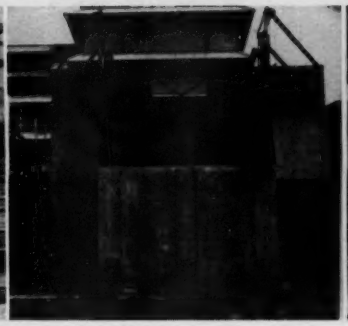


Four HANNA ENGINEERING WORKS cylinders, as shown, are used on pneumatic lifting and for roll pressures on machine.

FULLER CO. provided Airveyor system for handling lime and also for salt cake. This shows lime unloading and reclaiming system at Palatka Mill.



CARTHAGE MACHINE CO. supplied second 10-knife chipper for wood preparation in Hudson's new expanded operations at Palatka.



KOPPERS Elex Precipitator in Hudson recovery plant at Palatka which recovers 90% of soda salts from gases. This is second unit.

NEW BABCOCK & WILCOX 250-ton Recovery Boiler for Hudson's Palatka mill, which is second B & W unit for the expanded operation.

and reclaims from reserve lime bin and delivers to new at the same rate.

As in the original mill, attractive brick curtain type walls distinguish the new addition. The No. 1 machine, now in operation over four years, is a 234-in. Pusey & Jones Fourdrinier, but without Yankee, and will be used for heavier grades. It has averaged around 200 tons a day, with speeds up to 1400 fpm.

About the Management

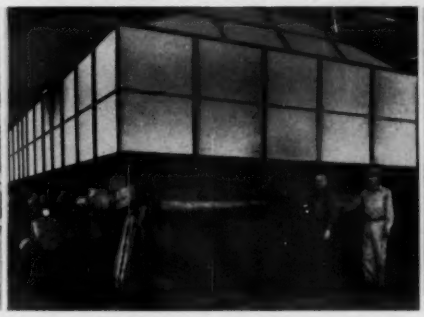
The Hudson firm has been well received at Palatka—and in return, it has given the town and countryside of Putnam County a big lift. It is a little farther inland than Jacksonville, but still within that now booming pulp and paper northeast corner of Florida. The company has 500 acres on Rice Creek, at St. Johns River tributary. The main office building is of Spanish architectural design. There is a nearby separate personnel, time office and first aid building.

Among Hudson executives attending the formal opening were Abraham Mazer, chairman; Jacob Mazer, President; William Mazer, executive vice president, Joseph Mazer, treasurer; Sam Lopin, secretary, and Theodore Mittendorf, vice president in charge of sales. Abraham Mazer founded Hudson in 1896. It has mills in Augusta, Maine, and Bellows Falls, Vt.

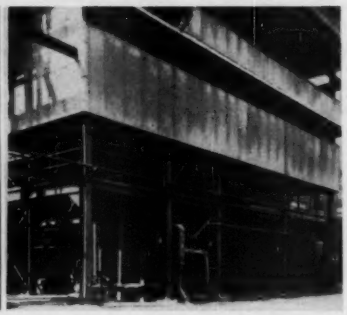
Closely associated with the work of planning and carrying out the expansion were, A. M. Lund, Charles A. Grondona and Samuel Siegel, also vice presidents in New York. In particular, Mr. Lund, as

FIBRE MAKING PROCESSES supplied these barking drums, one on left for first unit, and new one on right, for second unit for Hudson mill.

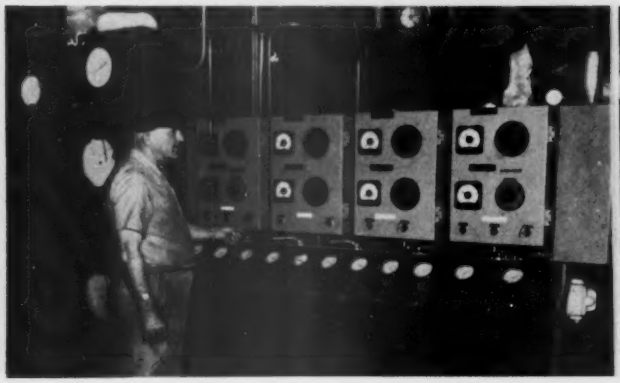
IMPCO 8x12 counter current washers for brown stock. **E. A. HARPER** (left), Pulp Mill Supt. at Hudson Palatka mill, and **ROY ECKER**, Shift Supt.

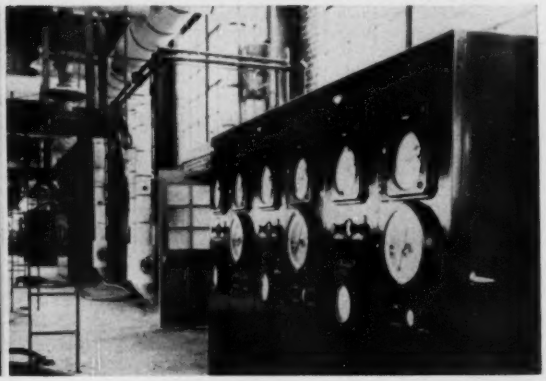


SWENSON EVAPORATOR CO. provided this new sextuple effect evaporator at Palatka, supplementing existing quintuple Swenson unit.



MASON-NEILAN REGULATOR CO. supplied automatic controls for new paper machine at Hudson's mill in Florida, as shown at left. This is main control board, **L. J. HERBERT** being the operator. In picture at right, other Mason-Neilan for digesters are shown. One panel is in foreground, others in background. Five new digesters were installed.





CHARLES A. GRONDONA (left), Vice Pres. for Mfg. of Hudson Pulp & Paper, who headquarters in New York, and GEORGE A. BALKO (right), Resident Manager at the Florida mill. They went to Europe together after World War II, before either joined Hudson, as a U. S. official team with Art Wakeman of Coosa River, to help get western European mills started up again.

A. M. LUND (left), Vice Pres. in charge of Engineering and Equipment, Hudson Pulp & Paper, often traveled to Palatka to supervise construction progress. SAMUEL SIEGEL (right), Vice Pres. in charge of Purchasing for Hudson in New York, was Res. Mgr. at Palatka when first unit started up.

v.p. of engineering and equipment, was frequently at Palatka, to supervise. Mr. Grondona is v.p. for manufacturing, and Mr. Siegel, for purchasing.

Mr. Lund, a veteran in the Mazer organization, developed plans for the Palatka developments with the aid of J. E. Sirrine Co., a prominent firm of engineers with wide experience in pulp and paper. Their headquarters is at Greenville, S. C.

Mr. Grondona coordinated plans with manufacturing and finished production. His experience has included being assistant manager at Crown-Zellerbach's biggest mill in Camas, as New York general manager for that company, and as operations chief for Schweitzer mills.

Principals involved at the mill were George A. Balko, resident manager and J. L. Richardson, general superintendent.

Mr. Balko started with the old Laurentide mill in Canada, but before joining Hudson, he was executive assistant to the operating vice president of Mead Corp. After World War II, he and Mr. Grondona were members of a three-man commission with Art Wakeman, now Coosa River Newsprint Co. executive vice president, sent to Western Europe to help get mills there back into production.

Other staff men at the mill include Rae H. Mills, plant engineer; Wallace L. Jones, paper mill superintendent; Emile A. Harper, pulp mill superintendent; Jack R. Bush, office manager; John S. George, converting superintendent; Horace M. Shirley, woods general superintendent; Milton R. Roberts, chemist; Arthur L. Ezell, master mechanic; Rothwell Poe, chief electrician; Donald L. Cameron, purchasing agent.

NEWSPRINT EXPANSION IN SOUTH

Clearance obtained from Defense Production Authority on February 19 by the Bowater Southern Paper Corp. for a mill at Charleston, Tenn., will give the South its third major newsprint plant. The first mill to produce newsprint from Southern pine was that of Southland Paper Mills, Inc., Lufkin, Texas, now rated at 400 tons per day (which also obtained clearance for a third big machine); the second, Coosa Newsprint Co., Coosa Pines, Ala., rated at 300 tons per day.

The mill startup is aimed for Jan 1, 1954. J. E. Sirrine Co., Greenville, S. C., are consulting engineers.

Every ton of newsprint Bowater's will make in Tennessee is sold for 15 years ahead, according to Sir Eric. The plant is also going to make 50,000 tons a year of market kraft pulp, in addition to 130,000 tons of newsprint and total investment, he said, was set at $51,500,000, with all American made machinery.

As soon as the DPA ruling was made known, the company commenced to take up options on a 2,000 acre site on the Hiwassee River, 12 miles from Cleveland, Tenn., where the company has opened an office. The site will be served by Southern Railway System; and a good highway is promised from Gov. Browning.

Bowater Southern Paper Corp. will function as a division of Bowater Paper Corp., Ltd., of London, Eng., which operates a 78,000 ton per annum newsprint mill in New Foundland. Sir Eric Bowater is chairman of the London firm. A. B. Meyer is president, and Charles T. Hicks, vice president, of Bowater Paper Co. (sales) of New York.

Sir Bowater will serve as chairman of Bowater Southern Paper Corp.; Mr. Meyer will be president; Mr. Hicks, vice president. A. W. Bentley, chief forester for the Canadian mill, has been in Chattanooga directing the acquisition of forest lands. The new Tennessee mill is to produce 100,000 to 125,000 tons of newsprint and 50,000 tons of bleached pulp annually. The newsprint is to be distributed within the U. S. replacing the Canadian production.

Murray Bennett Covers the U.S.A.

Murray H. Bennett, president of Chemical Linings, Inc., Watertown, N. Y., in just a two-months span early this year, visited some 30 or so pulp and paper mills from Maine to Florida and Alabama, and from Washington to California on the West Coast. He made three trips in that period —one to New York and New England mills, the second through the Southern territory, the third to the Far West.

AT PALATKA MILL OF HUDSON (l. to r.): J. L. RICHARDSON, General Supt.; RAE H. MILLS, Plant Engineer, and WALLACE L. JONES, Paper Supt. They are justly proud of new machine.

IN INDUSTRY NEWS

ROBERT J. McDADE (left), has been named as Personnel Manager of The Crystal Tissue Co., at Middletown, O. He also will be in charge of the paper mill's industrial relations and will plan employe recreational programs. Born in Miami, he graduated from Miami University in 1942 and received a battlefield commission while serving with the 99th Division in the Battle of the Bulge.

JAMES H. PERRY (right), Pulpstones Sales Engineer for Norton Co., Worcester 6, Mass., has been made Secretary of the Groundwood Pulp committee of TAPPI. Mr. Norton, formerly in leading paper mills, has been with Norton since 1944.

ONE GOES WESTWARD— THE OTHER GOES SOUTH

JAMES B. HOXIE (left) is new Western Division Sales Mgr. for Oliver United Filters Co., with his headquarters at 2900 Glasscock St., Oakland, Calif. With Oliver United for 20 years he takes over duties of PHIL McGUIRE, now Director of Research and Development for the company. Mr. Hoxie formerly was in the west, went to Central Sales in Chicago for ten years. He and Oliver's BILL KING recently made their maiden trip together to Coast mills.

K. H. CREE (right), is Manager of a new office for Western Precipitation Corp. at 1429 Peachtree St., Atlanta (N.W.), Georgia, and will represent that company, pioneers in applications of Cottrell Precipitators, in Georgia, Tennessee, Mississippi, Alabama, Florida and east Louisiana. He has had 16 years worldwide experience in recovery of dust, ash, fume etc. His Atlanta phone: Elgin 8276.

easy riding

ON SPHERICAL ROLLER BEARINGS

EXCLUSIVE FEATURES OF THE VICTORY BEATER

1. *Controlled Flow — uniform, positive fibrillation*
2. *Pressurized bedplates*
3. *Absolute control up to 40 tons bedplate pressures*
4. *Centralized bedplates assure 100% roll-bedplate contact*
5. *Highest effective inch cut potential*
6. *Horizontal roll oscillation makes bars self-honing*
7. *Lowest maintenance cost*
8. *Tailored-to-your-plant, low-cost installation*
9. *Spherical anti-friction roller bearings*
10. *1000 gallons per minute capacity*
11. *Highest quality, high tonnage production*
12. *All-time record for continuous production!*

VICTORY BEATERS are made in 2 styles: (a) **Single Roll** units for handling batches as small as 500 pounds. (b) **Multi-Roll** units with two, three, or more rolls for treating 100, 150, 200 or more tons per day on a continuous production basis.

It's easy to ride along with the *Controlled Flow* VICTORY BEATER* that holds all-time records for high quality, high tonnage, continuous production.

Let's "take our bearings" among the VICTORY BEATER'S many advantages. VICTORY BEATER rolls are held firm by famous SKF spherical roller bearings with the highest load capacity and radial rigidity. *There is no appreciable bearing wear*, an assurance of perfect roll-bedplate contact at all times. A specially designed rocker mount permits upward or downward loadings and timed roll oscillation for a continuous self-honing effect on the bars.

*Patents issued and pending.

This is just a *single* instance of the VICTORY BEATER'S superiority to any similar refining equipment in the world! For the complete facts and figures, write, wire or phone for Booklet PP452

THE NOBLE & WOOD MACHINE CO.

Paper Mill Machinery

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Personals

PACIFIC COAST NOTES

GEORGE CHARTERS, assistant resident manager, Crown Zellerbach, Camas, and Mrs. Charters, now have all three of their sons in different branches of service—one in army at Monmouth, N. J. (recently visited by Mrs. C.); one in navy at San Diego, and one in counter intelligence corps at San Luis Obispo, Calif.

WALTER JACOBY, tech. supervisor of the big Camas mill, and new acting dean of the Paper School there, has completed a modern new wooden rustic home on the 6th street hillside with woods for his backyard. He did interior work himself.

FRED SIEVERS, veteran groundwood supt., C-Z, Camas mill, is new president of the Northwestern Region (Wash.-Ore.-Idaho), Men's Garden Club of America and he also holds a national office as vice chairman of the Wild Flower group.

DAVID WADLEIGH, son of *GEORGE R. WADLEIGH*, well known veteran consulting engineer on pulp and paper problems, has joined the Scott staff at its Soundview Division, Everett, Wash., working on plans for the new tissue machines to be installed there. His father lives at Hastings-on-Hudson, N. Y., with offices at 500—5th Ave., New York.

FRED M. BRUNDAGE, Portland, Ore., has been appointed by *GOV. DOUGLAS McKAY* to Oregon State Board of Forestry, succeeding *E. B. TANNER* who has resigned. In World War II, Mr. Brundage had many contacts with the pulp and paper industry as WPB log administrator for the Pacific Coast.

JOHN E. ROBISON, technical service representative of Kelco Co., has moved to 2533 Northeast Tillamook St., Portland, Ore. (12). His phone is Trinity 0497. Mr. Robison formerly lived at Warren, Ore. He was former technical director for Pacific Paperboard Co.

LAURON R. GIERSCH, paper mill technician at Crown Z, Camas, Wash., and second place prize winner of 4th year students in the C-W Paper School, now has two members of his family with leap year birthdays (Feb. 29). His wife, herself a leap year day baby, presented him with another one—a daughter—just 15 minutes before Mar. 1.

JAMES A. McCOURT, from Wisconsin Rapids, Wis., *LESTER HAGAN*, from Battle Lake, Minn., and *OM AGGARWALA* from India, were among the Camas Paper School students finishing courses this year who came from far-away homes.

RICHARD SCHMIDT was elected to the newly created position of chairman of the board of the Schmidt Lithograph Co., San Francisco, last month. *CARL R. SCHMIDT* succeeds Richard Schmidt as president. He was formerly vice president and general manager, and will continue as general manager. Vice presidents are *OTTO A. SCHONING*, re-elected; and *GEORGE D. TAYLOR*, also company treasurer. Continuing as secretary is *MORTON SCHMIDT*, now also assistant treasurer, while *LORENZ SCHMIDT* has been elected assistant secretary.

LARRY HENDRICKSON has been transferred from Seattle to Portland, Ore., as Pacific Coast manager of the frozen food retail package division of Container Corp. of America. He will be in charge of manufacturing, promotion and sales. Container is just entering the frozen food packaging field in the west with a new plant in Portland.

B. D. Warren Will Head Bird Machine Office in West

BLANCHARD D. WARREN (left), establishing new Pacific Coast office for Bird Machine Co., and SVEN FAHLGREN (right), who has been traveling in West Coast for Bird for years and will continue to be available on special work in that region.

Bird Machine Co., South Walpole, Mass., builders of the well known line of Bird pulp and paper mill machinery, is establishing a permanent sales engineering and service headquarters on the Pacific coast this spring.

Blanchard D. Warren, assistant sales manager of Bird Machine, with the company for 25 years, will have charge of the new office and made the transfer to the coast in March. It is expected the office will be either in Portland, Ore., or San Francisco. Mr. Warren is a graduate of Massachusetts Institute of Technology. He is thoroughly familiar with construction, application and operation of Bird machinery, including such widely used items as Bird screens, Dirtecs, Bird save-alls, Bird shower pipes, Vickery felt conditioners, Vickery doctors, Bird Vibrotor screens, Bird Jonsson screens and consistency regulators.

Sven Fahlgren, who has spent many years traveling the U.S. and Canada in connection with the Bird Vibrotor screen, Bird Jonsson screen and Bird consistency regulator, has made himself familiar with requirements of western mills on equipment of this kind. He will continue to be available on the Coast to contribute first hand knowledge and experience on special problems with such equipment.

Growing importance of the far Northwest as a major source of pulp and paper makes the opening of a Bird office in that area a logical and timely step and one that should prove of substantial benefit both to the builders and the users of Bird machinery, the company stated.

WESTERN PROMOTIONS

ERIC O. ERICSSON (left), has been promoted to General Supt., Puget Sound Pulp & Timber Co., Bellingham, Wash. DR. E. GRAY KING (right), has been made Research Director. Both are Univ. of Wash. grads, prominent in technical affairs. NORVAL MAGNUSSON has been appointed Technical Director, succeeding Mr. Ericsson. Promotions were announced by Vice Pres. Erik Ekholm, who is in charge of operations and who also is directing planning and organization for the new affiliated Ketchikan Pulp & Paper Co., on which work is commencing in Alaska.

HOWARD GRAHAM (left), Manager of Development Laboratory, for Crown Zellerbach Central Research at Camas, Wash., moves to new Elk Falls Co. newsprint mill being completed at Duncan Bay, B. C., (joint C-Z-Canadian Western operation) as Technical Supervisor Apr. 1. Succeeding him at Camas will be KENNETH BOOTH (right), who will have new title of Laboratory Manager, since there are now two labs there, according to Dr. W. W. MOYER, C-Z Director of Research. Mr. Graham, U. of Wash. '33, joined C-Z at Port Angeles; moved to Camas after army service. He was born in Seattle. Dr. Booth, U. of B. C. '40; ph. d. at McGill, '45-'48, after serving as Royal Air Force pilot, flying the "Hump" in World War I, was born in Victoria, B. C. Came to Camas in '48 after brief time at Ocean Falls mill.

Logsdon is Chief Chemist For Griffith Rubber

Lloyd Logsdon has been appointed chief chemist at Griffith Rubber Mills, according to Zina A. Wise, president of the Portland, Ore., firm. Mr. Logsdon served as assistant chemist for four and a half years. He is a graduate of Oregon State College and served in the navy two years during World War II as electronics technician.

St. Helens Washers

Three 8 by 16 ft. Impco brownstock washers were cut into production at St. Helens Pulp & Paper Co., St. Helens, Ore., in late February, according to Max R. Oberdorfer, executive vice president and general manager. This addition is one phase of the organization's current 3-year modernization-expansion program.

MORDEN *SLUSH-MAKER*

The controllable bar-to-bar action of the "Slush-Maker's" rotor and bed plate (shown enlarged at right) is the answer to rapid, efficient and complete pulping and deflaking of all pulps and paper stocks—even high wet strength.

The circulating action of the rotor blades quickly blends and mixes various pulps along with color, size and other additions to the furnish.

The bar-to-bar action may be set up to give a preliminary beating treatment to the stock or to brush the color and size into the fibers.

The "Slush-Maker" completely prepares the stock for final fiber treatment in "Stock-Makers" or other beating and refining equipment.

We are prepared to run a "Slush-Maker" demonstration for you—let us know your pulping requirements.

New, Improved *Plastometer* Wins Acclaim

More than 80 of the new 4-inch high Plastometers are now in use in the Paper and Rubber Industry, replacing the original instruments that had served for many years.

Now it is possible to measure the hardness of rubber-covered lower press rolls while the roll is still in position on the machine. The new compact design is only one of many design improvements. Puseyjones engineers have developed an instrument that is streamlined in appearance, lighter in weight and easier to operate.

If you want to replace your present Plastometer with this compact, practical instrument, write us today.

THE PUSEY AND JONES CORPORATION
Est. 1848. Builders of Paper-Making Machinery
Fabricators & Welders of all classes of Steel & Alloy Products
Wilmington 99, Delaware, U.S.A.

THE SIGN OF TRADE MARK SUPERIOR QUALITY

MAINE ALUMNI LUNCHEON pictures taken at Paper Week by PULP & PAPER: J. L. OBER (left), Vice Pres. of Scott Paper and Chairman of the Maine Pulp & Paper Foundation, is presenting the 1952 Foundation Award to GEORGE D. BEARCE, General Manager of St. Regis Paper Co.'s Maine Operations.

MEMBERS OF EXECUTIVE COMMITTEE of the Maine Foundation include (left to right): John B. Calkin, Secretary; Lyle C. Jonness, Chairman, Research Committee; F. A. Soderberg, Vice Chairman; J. L. Ober, Chairman; P. S. Bolton, Curriculum Committee; and Ashley S. Campbell, Scholarship Committee.

U. OF MAINE ALUMNI ACTIVITIES

George D. Bearce, general manager of St. Regis Paper Co.'s operations in Maine, was presented with the 1952 Honor Award of the Maine Pulp and Paper Foundation at the luncheon of University of Maine alumni during Paper Week. The award was made by J. L. Ober, vice president of Scott Paper Co. and chairman of the Foundation, "in recognition of outstanding service to the pulp and paper industry in management and technology."

Mr. Bearce graduated from Maine in 1911, has been associated with the pulp and paper industry for over 30 years. Companies with whom he has been associated include Mead Corp., International Paper Co., and St. Regis. He was made general manager of the Bucksport, Me., mill of St. Regis when acquired by this company in 1946.

Chairman of the meeting was Robert Ramsdell, Hercules Powder Co. Marsden Hutchins, American Cyanamid Co., was named to head the activity for the 1953 meeting of the alumni group.

The Maine Foundation was formed early in 1950 to interest students in the university's pulp and paper program and to provide loans and scholarships so students may take advanced studies to prepare them for industry positions. At present the Foundation has one scholarship underwriter member; 21 company members; 17 special gifts from companies; and 115 individual members.

Six students, the first to hold Foundation scholarships, are expected to graduate in June, and three additional scholarship holders in June 1953. General topics for student and staff research at Maine have been determined, and research is now being conducted by six of the scholarship holders, and several other students.

The Foundation was instrumental in securing the appointment of Charles M. Howell as a lecturer in Pulp and Paper Technology at Maine. Formerly with Scott Paper Co., he brings broad practical experience in paper manufacture to the university staff.

MAINE FOUNDATION officials include (top—l. to r.): Ralph N. Prince, Chairman, Individual Membership Committee; Everett K. Mansfield, Chairman, Individual Endowment and Bequest Sub-Committee; and Clifford Patch, Maine Regional Membership Committee. Below, l. to r.: Maine Luncheon Chairman—Bob Ramsdell, Chairman of the 1952 Foundation luncheon, and Marsden Hutchins, elected Chairman for the 1953 meeting.

Maine $5,000 Scholarship

The Great Northern Paper Co. is named the first "multiple scholarship underwriter" in the University of Maine Pulp and Paper Foundation. It subscribed $5,000 toward the Foundation scholarship fund.

Great Northern Paper was the first pulp and paper concern to become a "company member" two years ago, and is now the "first multiple scholarship underwriter."

Returns After Defense Job

Harold Scholl, paper industry manager for Brown Instruments division of Minneapolis-Honeywell Regulator Co., Wayne & Windrim Aves., Philadelphia 44, Pa., is returning to his post there April 1 after completing his special assignment in Schenectady, N. Y., working on instrumentation in connection with atomic energy projects.

Syracuse Alumni Hold 18th Annual Luncheon

NEW PRESIDENT OF SYRACUSE PULP & PAPER ALUMNI is Lionel M. Sutherland (left), Sutherland Refiner Corp., shown here with Walter B. Morehouse (middle), Nopco, retiring President; and Clark E. Snook, also of Nopco, the new Vice President. Louis B. Taylor, new Secretary Treasurer, was not present at time photo was taken.

Traditional event of Paper Week was the 18th annual luncheon of the State University College of Forestry, Syracuse, N. Y., pulp and paper alumni. The luncheon was held at the Roosevelt, and honored the 25th anniversary of the class of 1927.

Lionel M. Sutherland, secretary-treasurer of Sutherland Refiner Corp., was elected president of the Syracuse alumni for the coming year, succeeding Walter B. Morehouse, Nopco. Other officers elected included Clark Snook, Nopco, vice president; and Louis B. Taylor, secretary-treasurer.

Guests honored at the meeting included Ray Hatch, Hudson Pulp & Paper Co., and 1952 Tappi award winner; Fen Doscher, vice president of Lilly Tulip Cup Corp.; Wm. P. Tolley, chancellor of the University; Douglas Jones, president, Canadian Pulp and Paper Research Institute; Joseph S. Reichert, Dupont, president of Empire State Section Tappi; and F. S. McManus, president of the Syracuse alumni association.

New England Meeting

The Connecticut Valley Supts. division and New England TAPPI plan a joint meeting May 16-17 at Toy Town tavern, Winchendon, Mass., according to John Rettalick, superintendents' secretary.

South Gate Wins Safety Plaques

Now an annual fixture, California's Joint Labor-Management Safety Conference for the nine mills in that state was held Feb. 21-22 at the Mayfair, Los Angeles and 75 delegates witnessed awarding of two plaques to the South Gate (Los Angeles) Division of Fibreboard Products Inc. for a perfect safety record of no lost time accidents in 1951. One was for being highest of all Pacific Coast mills; the other for being highest in the state (see March issue of PULP & PAPER for Coast records).

Oscar Hallburn, manager, received the plaques. In 1948, 1949 and 1951 South Gate had zero frequencies; in 1947, 16.82 frequency per thousand hours; in 1950, 3.91. Its low 5-year average for 2,230,598 man hours was 4.03.

With charts, graphs, etc., J. R. Thompson, Jr., of Crown Zellerbach, San Francisco, spotlighted accident types in the industry. With statistics from mills all over the state he showed a "saw-tooth" chart with accident frequency in a fairly even variance during the first six hours; dropping sharply in the seventh, and practically nil during the eighth.

As a result of six annual safety conferences, mill personnel has become more and more accident conscious; is examining each and every one. This was further emphasized in a "Progress Report for 1951" by Dick Burnett, safety supervisor, Container Corp. of America, Los Angeles.

Chief R. T. Robertson, chief, fire prevention dept., Los Angeles fire dept., and assistants, gave examples of prevention. Dr. Carl Nemethi, industrial surgeon, traced progress from accident to "cure" of a worker whose right hand had been crushed between mill rollers. "The best 'occupation therapy,'" concluded Dr. Nemethi, "is an early return to work."

Co-chairmen were S. W. Grimes, secretary, Pacific Coast Association of Pulp and Paper Manufacturers; and A. E. Brown, vice president, Paper Makers union.

Opening statements were by L. E. Stevenson of Fibreboard, state chairman, H. L. Wollenberg, president, Longview Fibre Co., and Raymond A. Richards, vice president, Pulp, Sulfite and Paper Mill Workers, Wisconsin Rapids, Wis. Safety observations were made by Delegates Oscar Hallburn; Richard Buckley, superintendent, Fernstrom Paper Mills, Pomona; Robert Gilliam, N. Wirkus, Earl Gillenwater and Randall Sellers, labor representatives.

Toastmaster for the banquet was Otto R. Hartwig, Crown Zellerbach, general safety director; presenting of plaques was by I. D. Isaacson, vice president, P.S.P.M.W., Los Angles. C. R. P. Cash, plant manager, Fibreboard Products, Inc, San Joaquin Division, gave a semi-humorous talk, driving home points of "safety engineering," which he declared every employe should practice, with anecdotes.

The second day was devoted to "Accident Investigation," a skit by employes of Fibreboard, Los Angeles, led by Gene Ridings, personnel manager; and a conference on reducing unsafe practices, led by R. S. Boaz.

AT CALIFORNIA PULP & PAPER INDUSTRY LABOR-MANAGEMENT SAFETY CONFERENCE: Top view: Oscar Hallburn, center, with plant personnel and labor representatives, receiving from I. D. Isaacson, AFL Union Vice President, the California State Safety plaque for remarkable safety record achieved by Fibreboard's South Gate plant of zero in three years out of five. Manager Hallburn also received a plaque for the best 1951 record for all Pacific Coast mills. Middle group shows Fibreboard Products Inc. executives engrossed in the safety subject under discussion. Left to right: J. L. Bateman, G. B. McGuish, C. R. P. Cash, Gene Olafson and R. P. McDonald. Mr. Cash, manager of the new San Joaquin Division, gave a talk on safety engineering. Lower left—Dick Buckley, plant superintendent, Fernstrom Paper Mills, Pomona, California, delivering paper on "Personal Contacts to Promote Safety," and Jack R. Thompson, Jr. (lower right), industrial relations, Crown Zellerbach Corp., San Francisco, showing one chart illustrating "Spotlighting Accident Types in the Pulp & Paper Industry."

Man uses paper more than any other commodity except water. You are in an indispensable industry.

CROWN ZELLERBACH PROMOTIONS

L. to r.: G. H. GALLAWAY, from Res. Mgr., Carthage, N. Y., to Asst. Res. Mgr., Camas, Wash.; H. H. WYMORE, from Res. Mgr., Lebanon, Ore., to Res. Mgr., Carthage; B. C. SMITH, from Asst. Mgr., Port Townsend, Wash., to Res. Mgr., Lebanon.

Another series of managerial promotions in Crown Zellerbach Corp. have been announced, and in accord with policy of recent years, they are designed to give executives broad experience in various operations of the company.

George H. (Pinky) Gallaway, who went to Carthage, N. Y., as resident manager in 1950, returns to Camas, Wash., to be assistant resident manager. This follows "loan" of Albert G. (Buff) Natwick, who held the Camas post many years, to Washington, D. C., to be head of the Raw Material Branch, of the Pulp, Paper and Paperboard Div., NPA, as reported last month. Frank Drumb is manager at Camas and George Charters is another assistant manager.

Herbert H. Wymore who succeeded Mr. Gallaway as resident manager at Lebanon, Ore., in 1950, follows him to Carthage as manager there. Beverly C. Smith, assistant resident manager, Port Townsend, Wash., kraft mill goes to the Lebanon ammonia base sulfite mill as manager.

Mr. Gallaway, 1932 grad of Oregon State, held high technical posts at Camas, before going to Lebanon. So did Mr. Wymore, a 1938 grad of Oregon State, and had a special assignment that took him to several mills. For Mr. Smith. who joined Crown Z after graduating from the U. of Washington in 1937, this will be his first move to another mill.

RICE BARTON

Dump Valves

8 Inch Valve Assembly

Answering a need for a superior dump valve for the paper industry, Rice Barton Dump Valves have the following advantages:

- Passages of valve are clear, smooth and unobstructed.
- Plug type flange used to eliminate any stock accumulation in valve.
- Gate of valve flush with floor of tank which prevents unpulped stock from pocketing above valve.
- Valve may be opened and closed from a remote location handy to operator.
- Either water or compressed air may be used for actuating valve.
- Discharge in any direction by swinging valve on bolt holes.

Construction — Valve body available in either cast iron or bronze.
Trim of bronze or stainless steel.

RBR 4-52

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MORE MILLS USE OTHER FORTIFIED

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Day after day, from scores of mills all over the country, come reports of the remarkable dollars-and-cents savings being made by Pexol, Hercules' fortified size. Actual figures from satisfied customers prove that Pexol is saving them millions of dollars a year.

Is it any wonder that paper and board mills use more Pexol than all other fortified sizes combined?

Buy your fortified size from the leading supplier

*right now PEXOL is saving the

News and Notes from ▣ ▣ ▣

EQUIPMENT AND SUPPLY COMPANIES

F. C. HUYCK & SONS announce the first successful run of a papermakers' felt made of 100 per cent synthetic fiber. The run was at Camas, Wash. mill of Crown-Zellerbach on a high speed Yankee Fourdrinier machine making tissue. Its life substantially exceeded the average on this position and it gave free drainage throughout its life with no evidence of filling. This development is the result of a long term research program involving many synthetic fibers and manufacturing techniques. For the past few years, felts have been made with a combination of wool and synthetic fibers, but it now appears that all-synthetic felts can be employed successfully for certain uses.

RELIANCE ELECTRIC & ENGINEERING CO. offices in both Detroit, Michigan, and Cleveland, Ohio, have been moved to larger quarters, according to E. E. Helm, sales vice president. The Detroit office, at 3105 East Grand Blvd. for the past 15 years, is now at 12326 Hamilton Ave. Telephone is Townsend 8-5510. These new facilities include warehousing for complete line of Reliance A-c. motors of the open and totally-enclosed types. The company subsequently plans to stock its packaged V*S adjustable-speed drives and renewal motor parts at Detroit. Reliance's Cleveland District Sales Office, which has been located at 1200 Ivanhoe Road since 1948, is now operating from 13967 Cedar Road, Cleveland 18, O. Telephone is FAirmount 1-7880.

MASON-NEILAN REGULATOR CO. has announced what it terms "an entirely new moisture control system in paper manufacturing." The system, introduced during Paper Week in New York, employs the constant steam flow and variable pressure principle which is said to be extremely sensitive and yet stable. Steam flow to the pilot dryer is controlled by an indicating controller and steam pressure variations in the dryer are measured and recorded by the moisture controller. Output pressure resets control point of the pressure controller which controls the pressure in the main dryer section. For information write Mason-Neilan, ask for Bulletin No. PD 108 "Moisture Control System."

OAKITE PLANT MAINTENANCE DIGEST, reviewing materials and methods for performing 54 maintenance cleaning and related tasks in factories and mills, has been announced by Oakite Products, Inc., New York, manufacturers of industrial cleaning and allied materials, which moved to new New York offices at 19 Rector St. (6).

AN APC AUTOMATIC PROGRAM CONTROLLER is available for the controlling of chlorine feed at pre-determined rates for pre-determined periods, according to *BUILDERS-PROVIDENCE, INC.*, Providence, R.I. The Controller is a simple, cam-operated valve arranged to transmit pressures to the lower diaphragm pressure chamber of the chlorine control valve in a Chlorinizer. Features and other information available from Builders-Providence.

NEW EXECUTIVES

KENNETH C. TOWE (left), is the new President of American Cyanamid Co., New York, as we reported last month. He was formerly Vice Pres. in charge of Finances and now has succeeded the late R. C. Gaugler as top man.

C. EDWARD DUERR (right), recently appointed Assistant Sales Mgr. of Paper Bag Machinery and Printing Press Div., Potdevin Machine Co., 1285 38th St., Brooklyn, N. Y. He joined Potdevin 14 years ago and has been in paper converting and printing press fields for 20 years.

DU PONT DYESTUFFS DIVISION new sales posts announced by Du Pont's Organic Chemicals Department: C. Harrell Asbury was named assistant manager, domestic sales, Heinz A. Lips was appointed manager, lakes, paper, and leather section; and Kenneth C. Johnson was named manager, textiles section.

SUTHERLAND REFINER CORP., Trenton, N.J., has available on request a new catalog entitled *"Modern Stock Preparation."*

J. H. BABCOCK, vice president in charge of development and research at *HOOKER ELECTRO-CHEMICAL CO.*, has announced the appointment of *DONALD L. TAYLOR* as manager of general developments in the department. He will be particularly concerned with general expansion problems and studies.

M. M. BIXBY, director of sales for the Paper Makers Chemical Department of *HERCULES POWDER CO.*, has announced availability of a new grade of fortified rosin size called "Dry Pexol, Grade 240," developed for use in unbleached, semibleached and colored papers and boards. It is said to give fortified size advantages with low-brightness rosin costs.

NICHOLS ENGINEERING & RESEARCH CORP., New York City, announces availability of a 6-inch "Vortrap" for use in cleaning liner stocks for cylinder machines. The equipment is also said to have successful application in cleaning de-inking stocks. The large machine, to replace 4-inch previously recommended, has capacity to handle the average cylinder machine vat, and can be supplied for manual or automatic dumping.

DONALD L. GIBB, plastics sales manager for *DOW CHEMICAL CO.*, says that his company's Dow Latex 512-K has been made available for paper companies who do not have conventional coaters, and who may use the new formulations to make new lines of paper without modification of existing equipment or investment in special coating equipment. Information may be obtained by writing to Dow mentioning latex number.

FAIRBANKS, MORSE & CO., 600 South Michigan Ave., Chicago 5, whose motors, pumps, scales, etc. are in use in many mills, announces promotion of *J. A. CUNEO* to general sales manager; *H. L. HILLEARY* to assistant sales manager, *C. E. DIETLE*, to Diesel sales manager. Serving the Southern paper industry, *W. B. WYLLY* has been appointed Atlanta, Ga., Fairbanks, Morse branch manager.

ALLIS-CHALMERS PW PUMPS designed and built to handle high consistence pulp and heavy liquors encountered in the paper industry and corrosive liquids with suspended solids are described in a new bulletin. Of particular interest are design features of a special adapter and feeder vane assembly which can be furnished as an alternate arrangement to handle 6% bone dry consistence pulp, and a conversion and range chart from which it is possible to select the pump of correct capacity for handling known quantities of liquid per day. The special adapter and feeder vane assembly has a 16-inch suction pipe adapter which permits a free flow of stock to the pump entrance where the feeder vane will overcome the frictional resistance. The bulletin includes a description of the "Hi-Density" feeder and of the universal joint spacer coupling.

Copies of the bulletin "Allis-Chalmers PW Pumps," 08B7112A, are available upon request from Allis-Chalmers Manufacturing Co., 995 S. 70th St., Milwaukee, Wis.

COMBUSTION ENGINEERING-SUPERHEATER, INC., New York, announces the election of *WILLIAM J. VOGEL* and *ROBERT M. HATFIELD* as vice presidents. Mr. Vogel was employed by the company in 1924 and has been an executive of the Engineering Department for some years. He was appointed Chief Engineer in 1950. Mr. Hatfield joined in 1934. He was appointed general manager of its Western Division in 1949 and will continue in this post in Los Angeles.

"Through research in the next 10 years, more money is to be MADE or SAVED in pulpwood operations of North America than has been made or saved in pulp and paper manufacture in the last 25 years."—*Dr. LINCOLN R. THIESMEYER, President of Pulp & Paper Research Institute, Montreal.*

DISCUSSIONS AT PAPER WEEK

Debarking Machines and Methods—Government Policies

Developments in pulpwood production, debarking, handling, and sales policies all came in for discussion during the 18th annual meeting of the American Pulpwood Assn. held Paper Week (Feb.) in New York City. Top interest was shown by pulpwood men in reports on NPA and OPS procedures in securing equipment and establishing ceiling prices.

Following are some of the highlights of the week's meetings:

NPA Procedures

Frank Heyward, chief, pulpwood branch, of the pulp, paper and paperboard division of NPA, outlined some of the procedures for securing priorities on heavy logging and mill yard equipment. In applying for a priority, he said:

(1) Decide whether equipment is for use on logging operations or in the yard. Mill yard tractor or crane requests should be directed to Jack O'Connell, of NPA's pulp and paper division. Logging equipment requests should be directed to the pulpwood branch. There is no connection, he pointed out, between the Forest Products Division of NPA and these divisions.

(2) The request for equipment to the pulpwood branch should be incorporated in a letter which specifically states needs and merits of the request. This letter should give a description of equipment; its dollar value; copy of purchase order; delivery dates both with and without priority; complete description of use to be made of the equipment; a statement showing why it is necessary; and a statement clearly showing the essentiality of the finished products to the defense effort. If the application is from a producer, he must obtain a letter supporting the application from the company buying the wood. Priorities are usually ruled on within 8 days.

OPS Pulpwood Rulings

Henry C. Waldo, industrial consultant for pulpwood in OPS, reviewed the action of his agency from the issuance of General Ceiling Price Regulation on January 26, 1951.

In respect to the industry concern which followed the issuance of CPR 102, covering pulpwood in the Applachian area, and CPR 107, covering pulpwood in the Lake States area, he said that some problems arose from lateness of the season when the regulations were issued, but many arose from misinterpretation of the degree of control imposed by the General CPR.

"In formulating the regulation for the Lake States area," said Mr. Waldo, "it was difficult to get approval at various price levels because the proposed prices were in some instances somewhat above the weighted average of prices gathered by the Office and the Bureau of Labor Statistics. So when a single level is established, some dislocation is bound to result, with some producers finding they can increase their prices, but others being forced to roll theirs back."

CPR's have been issued now to cover the two above areas and the Northeast states. Pulpwood over the remainder of the nation, with the exception of the West Coast where pulp logs are controlled along with sawmill and peeler logs, is still under the GCPR.

The GCPR, explained Mr. Waldo, establishes ceiling price for both seller and buyer at highest price that seller delivered commodity to a purchaser of the same class during base period—Dec.19, 1950—Jan. 25, 1951. "There is no such thing as a buyers' ceiling price. By this I mean, no one has the legal right to pay one and all a certain price per cord because he paid John Jones a certain price during the base period. The buyer can pay whatever is the sellers' legal ceiling, and this includes any and all buyers. One buyer who has had a general price level over the prices generally paid by one of his competitors cannot pay a producer who has been selling to the competitor a rate over what such seller has been receiving." This has caused much misunderstanding, according to Mr. Waldo.

Atomic Research for Pulpwood?

Dr. Lincoln R. Thiesmeyer, president of the Pulp and Paper Research Institute of Canada, said use of atomic energy may revolutionize the industry. He visualized mobile pulping units able to take an entire tree and pulverize it, separating by centrifuge the various components into tank trucks or pipelines for transport to refineries to be processed into many products not now being made.

He said radiosotope tracers would permit closer tree study and understanding of the cellulose fiber, and that new methods for cooking and refining would increase yields and make for more complete utilization.

"Through research during the next 10 years there is more money to be made or saved in the pulpwood operations of North America than has been made or saved by improvements in pulp and paper manufacture in the last 25," Dr. Thiesmeyer said.

Debarking Pulpwood

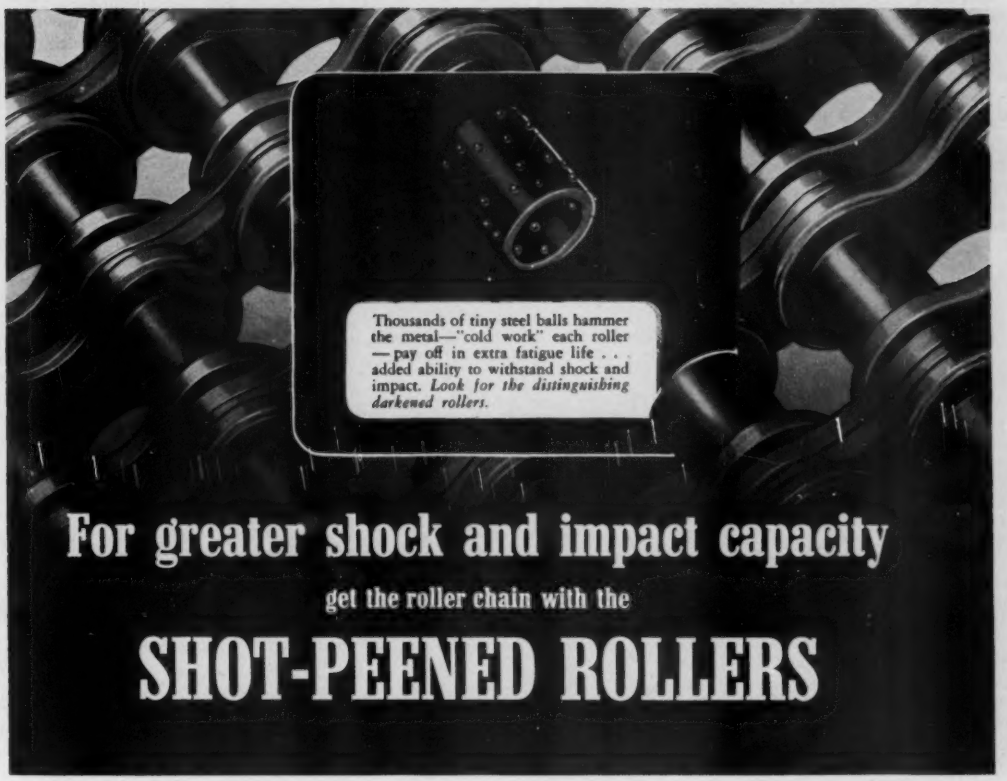
Discussion on debarking of pulpwood was carried on in two sessions—portable mechanical debarking, and chemical debarking.

E. W. Fobes, U. S. Forest Laboratory, Madison, Wis., outlined developments in portable machinery, and showing the decided trend in this direction. He described the Nekoosa-Edwards hammer machine-type barker, the Murco-Adams-Clark portable drum-type barker, and Andersson pneumatic debarker. The Andersson debarker, initially developed in Sweden by Eland Andersson, was tested at Billeruds A. B. in Ludvika in 1950.

First installation in America is at Southern Lumber Co., Warren, Ark. Soderhamn Machine Co., Talladega, Ala., are U. S. agents.

Of fixed cutter head barkers, the Sandy Hill Peppy Peeler was pointed to as having an advantage in being able to handle logs up to 20 inches diameter. Mr. Fobes said that no portable hydraulic barkers had been developed.

Mr. Fobes was asked what has been done to separate bark fragments from chips, and how the investment for such equipment would compare with cost of equipment to debark before chipping. He replied that research is being carried out, specifically with centrifuges, but not



. . . one of the extra-wear features you get with every LINK-BELT Roller Chain

JUST as shot-peened rollers give you extra fatigue life—so do Link-Belt's exclusive lock-type bushings multiply roller chain's capacity to withstand shock loading. And there are many other engineering extras that make Link-Belt Precision Steel Roller Chain your best buy for drive and conveying service.

You can choose from the complete range of Link-Belt Precision Steel Roller Chain. Ask your nearest Link-Belt office for full particulars on single or multiple widths, in ⅜" through 3" single pitch, or double pitch, 1" through 3".

Lock-type Bushings increase ability to withstand severe operating conditions

A special manufacturing process securely locks the inside sidebars on the bushing, preventing lateral movement of the sidebars and eliminating a common cause of stiff chains. This Link-Belt development is applied on roller chains through 1" pitch and double pitch roller chains through 2" pitch.

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LINK-BELT

PRECISION STEEL ROLLER CHAIN

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, factory branch stores and distributors in principal cities.

enough is known about the kinds of bark and their composition. So that the first job of research is to find what bark is.

Mr. Fobes said the Andersson debarker may solve the question in the East for sawlog barking.

Chemical Debarking

On chemical debarking, the symposium began with J. D. Hale, Forest Products Laboratory, Ottawa, Canada, explaining their experiments, 1943 to 1949. Chemicals were applied to a girdle of exposed sapwood and the dose was held in contact by a strip of paper bandage. It was found through the experiments that only small doses were necessary, and bandages were not needed. Soluble compounds of arsenic proved most effective when trees were felled after the normal peeling season.

D. J. Wort, University of British Columbia, described research by CPPA. The prime objective is to find if chemical barking may be feasible for Western species. Preliminary work began in July, 1951, on a Douglas fir and hemlock with arsenite. Radioactive arsenic is to be used this spring.

Practical application of chemical girdling for bark separation gas been has been made by the Armstrong Forest Co., A. K. Bennett reported. Since May, 1949, approximately 60,000 cords of pulpwood have been treated in the company's hardwood forests in Pennsylvania, and increased treatment is in order. Paint brush method of application to a simple sap peeled girdle has been effective for Armstrong. Work with Dupont is in progress to secure a more desirable killing agent.

Dr. H. W. Popp reported on studies at Pennsylvania State College. The objectives there have been to study cambial activity, tissue differentiation and development of xylem and phloem in untreated trees in comparison with those girdled and treated. Arsenicals have been used, and work has been confined to hardwood. Data indicated arsenicals applied during the bark-peeling season probably kill the cambium and surrounding tissues, preventing further growth which would result in tightening of the bark. Girdling to the sapwood but not through it, seems more effective in Pennsylvania studies.

Other Chemical Experiments

R. G. DeMoisy, technical director of the Washington State Institute of Forest Products, did not attend, but his report said that western hemlock, true firs, black cottonwood and western red cedar reacted most favorably to chemical treatments. Girdling with ax slash and treating with a squirt can produced complete kill and bark separation.

Experiments at Michigan State College were with trembling aspen and largetooth aspen, according to A. J. Panshin. At the end of the first growing season results showed water solutions in 8000 p.p.m. concentration not effective, and that Dow Esteron 245 and 44 were most effective killing agents.

Dr. Hugh Wilcox, directing chemical debarking at Syracuse, said their work to date indicated sodium arsenite was most effective. Work is inconclusive as to amount or arsenic remaining, if any, in paper made from treated trees. Plans for 1952 at Syracuse call for further studies.

Also from Syracuse, Dr. F. J. Czabator said analysis of the past season's work shows that the addition of adhesives and wetting agents to arsenic solutions produce somewhat better peeling qualities than the standard arsenic. Post-season treatment, Aug. 1 to 15, appeared to be equally effective with that done in sap-peeling season.

Government Sales Policies

George L. Drake, vice president of Simpson Logging Co., and president of the Society of American Foresters, was moderator of an APA session on "Pulpwood Timber Sale Policies on National Forests." He pointed out the authority of the Forest Service to sell this timber stemmed from the Act of June 4, 1897.

To a question on the definition between sawlogs and pulpwood in the South, it was explained determination was one of size, with 10-inch diameters and under going as pulpwood. However, saw timber people frequently move in and take marked pulpwood. I. J. Mason, chief, division of timber management, U. S. Forest Service, said that in his opinion there should be a great deal more cutting from public lands.

Mr. Drake brought up the question of public use of roads which private companies have built for logging purposes. In reply, Mr. Mason said that the problem was recognized but there is no national policy. The government simply says public safety must be provided, but operators who have built roads must also be protected.

Time-Cost Studies

An interesting report on time and cost studies in pulpwood logging was made by G. M. Wilson, industrial engineer, Johns-Manville Products Corp. The time-cost plan was worked out in Johns-Manville cutting operations near Jarratt, Va., to set a fair average time required to produce a cord of wood, and to base bonus payments on production above standard.

Mr. Wilson said for several years this operation has been averaging 116 per cent of standard, crew strength was reduced from 24 to 20 men, production increased from an average of 29 to 45 cords per eight hours. Through explanation beforehand, Mr. Wilson said the company had full cooperation of workers.

SMALL OWNERS — KEY TO SOUTH

If the pulp and paper industry in the South is to maintain itself at present or expanded levels, it must be prepared to expend as much effort in protection and growth of pulpwood on small private landholdings as it is now doing on its own lands. This was the message of Frank Heyward, chief, pulpwood branch, pulp, paper and paperboard division of NPA, at the American Pulpwood Assn. at the Waldorf during Paper Week.

Mr. Heyward, on loan to NPA from Gaylord Container Corp. in Bogalusa, La., and who is returning to Gaylord shortly, pointed out that in 15 years best estimates are that 54% of the industry's requirements must come from the small owners. Only 30% will come from the industry's own land; 4% from public lands; and 12% from large private timber owners.

In a careful analysis of the whole Southern picture, Mr. Heyward reviewed the growth in requirements for pulpwood in the South from 1,500,000 cords in 1950 to 14,000,000 in 1951. Certificates of necessity now issued for new plants establish the need for an additional 3,500,000 cords, so that by 1954 the annual requirement will be between 17,500,000 and 18,000,000 cords.

Analysis of Practices

A breakdown of existing practices shows that pulpwood production was as follows: 4% from public lands; 13% from pulp company owned land; 12% from large private owners other than pulp—such as lumber; and 71% from small holdings.

Pine lands of the South are about 50% productive, said Mr. Heyward, and estimates are that in pine growth more than one-half will be on lands of the small owner. For this reason it is important to pay close attention to the seeding and harvesting from the small owners' lands. His analysis of cutting practices indicates cutting from public holdings is labeled "good" to insure continuous production. Private holdings practices are 25% good and 75% poor; while the cutting from small owners is 2% good and 98% poor.

Mr. Heyward recommends that the industry set up as a new cost of pulp 50 cents per ton to work with the small land owner in timber marking, hardwood control, free distribution of seedlings, in making available to these owners planting machines, and in holding forestry demonstrations. The most important factor, he said, in influencing supply of trees for tomorrow is the method used in harvesting trees today. Pulp companies should insist on good practices and in buying only from dealers who will cooperate.

Southern Ownerships

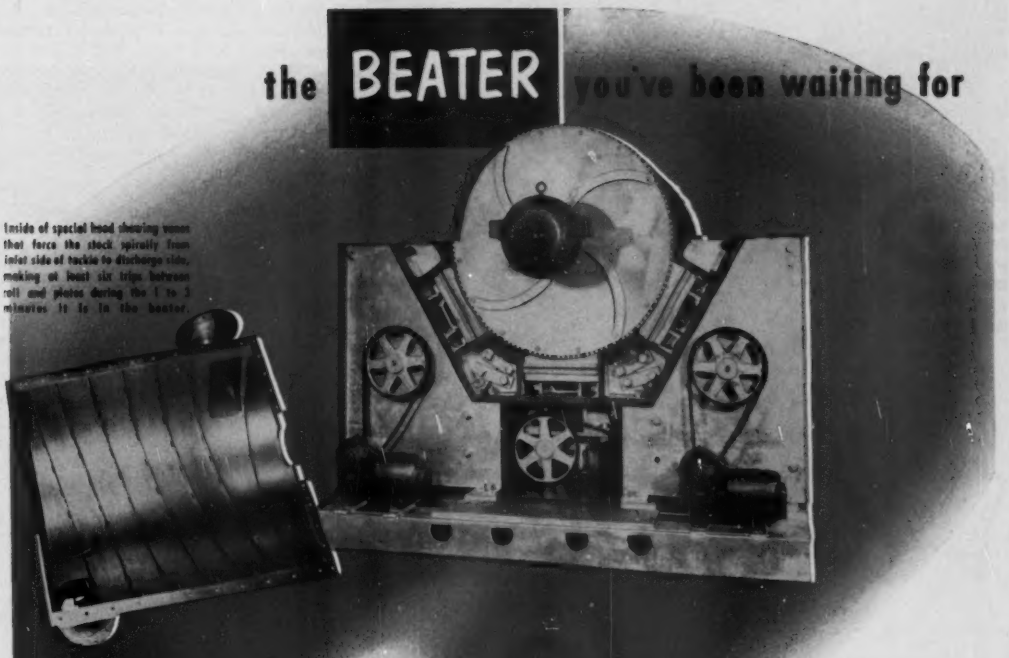
The South has 40% of the nation's commercial forest land, and more than one-half the softwood supply, said Mr. Heyward. The South's 183 million acres of commercial forest land are capable of growing one cord per acre per year. This acreage is now held as follows: 16 million acres publicly owned; 13 million by the pulp industry; 34 million by large private owners; and 122 million acres by small private owners.

In 1929 the lumber drain on this supply was 30 times that of the pulpwood drain. In 1950 pulpwood drain was a close second to lumber.

From public lands, the U.S. Forest Service says that less than 500,000 cords of pulpwood will be offered for sale annually from 1952-1957. 350,000 cords of this will be pine, and 136,000 cords hardwood.

From its own lands, the industry is consuming 95% of the current wood product,

the BEATER you've been waiting for



Inside of special head showing vanes that force the stock spirally from inlet side of tackle to discharge side, making at least six trips between roll and plates during the 1 to 3 minutes it is in the beater.

The new Midwest-Smith beater is a new type of precision machine for the hydration and brushing of all types of fiber. With it the maximum required mullen, tensile and tear characteristics can be developed on a continuous basis.

It features a special roll in a totally enclosed housing, three bed plates, each independently adjustable to the roll; a special kind of hood; and automatic controls.

The stock enters under pressure at the top thru a vertical nozzle, makes the required passes between roll and plates and discharges thru a horizontal nozzle, also shown in the cut.

The stock does not spread clear across the face of the roll and plates in its travel as might be expected. Rather, spirally arranged vanes in the hood impart a definite spiral motion and the stock is forced to make at least eight independent trips under the roll and across each of three plates on its way to the discharge on the opposite side from the inlet.

The cycle is from 1 to 3 minutes during which time the stock is alternately compressed and released and receives a tremendous amount of hydrating and brushing.

The power factor is low because the roll does no circulating and there is no bar to bar contact. The replacement outlay for tackle is also low.

Both of these economies should particularly interest mills on kraft and semi-chemical pulps where larger numbers of jordans or disc refiners are normally required.

Capacity 50 to 100 tons, depending upon type of fiber being refined, freeness sought and tonnage required.

Fully assembled ready to install except for drive which may be flat belt, V-belt, or chain type.

Complete description on request.

MIDWEST-FULTON MACHINE CO., DAYTON 3, OHIO

but by 1960 it will only be able to take 30% of requirements from its own holdings. In order to produce requirements of 17,500,000 cords of pulpwood annually, the industry would have to control 23,000,000 acres with an annual growth of ¾ cord per acre, including hardwoods.

For these reasons, Mr. Heyward concludes, the industry in the South has a higher stake in the timber held by the small private owners than the owners do themselves.

FOREST COUNCIL

Opposition to any movement that would result in socialization of natural resources was expressed in no uncertain terms by those attending meetings of the Forest Industries Council at the Waldorf during Paper Week. Sponsored by the American Paper and Pulp Assn., the National Lumber Manufacturers Assn., and the American Pulpwood Assn., FIC has been active in opposing trends toward nationalization which it felt engendered by the government's Valley Authorities.

Attention was called at the FIC meeting to a new organization just formed called the American Watershed Council Inc. and headed by David Guy, formerly of the U.S. Chamber of Commerce. This Council, established to consider watershed problems and opposing the government's watershed program, was considered by some to deserve FIC cooperation.

Col. Wm. Greeley told the FIC group of discussions with Lyle Watt, chief of the U.S. Forest Service, during which it was proposed that private and public ownership interests get together to talk over forest problems and programs. He said that he felt the government ownership of 181,000,000 acres of timber land in U.S. and Alaska was enough, and opposed the government plans to acquire another 30 to 35 million acres.

Col. Greeley suggested that other areas consider setting up discussion groups with Forest Service officials along the lines which were accomplished in the West, and to decide just where federal acquisition of forest lands be halted. He suggested the National Forests Reservation Commission as the proper place for formal hearings.

The point was then made that county and state ownership should also be questioned as constituting a danger to private ownership.

Fear was expressed that groups such as FAO was not making proper use of taxpayers money in sponsoring programs to buy sawmills, pulp mills and other projects in foreign lands. It was felt that closer touch should be maintained with these international organizations to prevent infiltration by men whose aims are socialistic.

At its business session, FIC re-elected its officers who are: Clyde S. Martin, chairman; C. H. Sage, deputy chairman, and Robert E. O'Connor, secretary.

Oliver Model "FDE" with air steering skidding log scaling 5500 feet.

..Profit Pointers for You!

Here are three big advantages of Oliver Tractors that mean profitable logging for you.

1. ***FINGER-TIP AIR STEERING.*** An Oliver Tractor equipped with air steering enables your operator to control the tractor with just two fingers of one hand. The other hand is free to control the dozer or winch . . . operator faces forward in a natural position and has the tractor and equipment under complete control all the time. Combine air steering with exclusive Oliver steering principle that keeps power on both tracks at all times, and you'll see why you'll get more efficient logging.
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Combine these Oliver *plus* features with all the other great Oliver advantages and it's easy to see why, for profitable logging, your choice is Oliver.

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Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio.

A complete line of industrial wheel and crawler tractors

THESE SOUTHERN KRAFT DIV., International Paper Co. men were in news recently (l to r): GEORGE STUHR, of sales, who was elected new President of Paper Bag Institute, Inc.; H. M. (SWEDE) ROLLER, who became Coordinator of the division's conservation forestry, moving to Mobile, Ala., Southern h'q'ters from Panama City, Fla., and MITCHELL PARKER, who became Conservation Forester at Panama City.

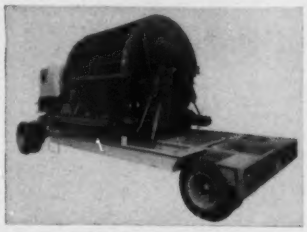
Radio In Camp's Woods—Another Talk Before APA

D. C. Cotton, assistant manager of woodlands, Camp Mfg. Co., Franklin, Va., told the APA New York meeting of use of radio in his company's pulpwood production and procurement. He said they have a 2-way FM radio communication system. Main station has output of 250 watts, mobile units have 30 and 50 watts. FCC license covers 25 mobile units, 5 handie talkies and the land stations and initial cost of this equipment was $13,600 including installation. (Motorola equipment, operates on 4590 megacycles.)

He told how area managers' cars were equipped with radio, how timber cruisers and survey parties benefit by its use, how equipment service is maintained, road construction expedited, marine operations carried out, and even Camp's own 22-mile railroad operated with aid of radio. During fire season, handie talkies, on land or even in planes, and other radio equipment are on 24-hr. day use for fire protection.

"We have had this type of equipment for 3½ years," said Mr. Cotton. "I personally feel it is still in its infancy. We do not realize how much we have grown to depend on our radio equipment until it breaks down, and I am thankful that is very seldom. Radio communications are quick and accurate—much quicker than telephone."

Portable Barker For N.Y.-Penn. Co.



THIS MURCO-ADAMS-CLARK Portable barker was made for N.Y.-Penn. Co., handles 60 in. pulpwood, weighs 21,800 lbs. less drive 10,000 lbs. Has Ford industrial gas engine, 50 hp., 6 cylinder. Is arranged for hand loading.

First reports of a new type of portable drum barker that can be mounted on truck, tractor or skid (first ones were on a jeep) and taken right into the woods, were published in these pages over a year ago (page 80, Jan. 1951 issue) and a progress report was published in July 1951. (page 78).

Now known as the patented MURCO-Adams-Clark portable barker, it is made in 8 sizes for wood from 48 to 110 inches. First successful in South, as our field editor found and reported, it is now also successfully barking poplar, spruce, hemlock, balsam and hardwoods in the North, too. It does a job on even slightly crooked wood. For more details refer to our previous articles and to D. J. Murray Mfg. Co., Wausau, Wis.

Kimberly, Ecusta, Price Bros. Top National Safety Contest

As was expected in view of its record no lost accidents in 2,964,000 man hours, (330 days to Jan. 19, 1952) Kimberly, Wis., mill of Kimberly-Clark was 1951 Group A champion in the National Safety Council's pulp and paper competition.

There were 55 competing in the group with Kimberly tops with .61 frequency; Ecusta Paper, Pisgah Forest, N. C., second with 1.41 and Price Bros., Kenogami, Que., third with 1.62.

In Group B—71 competitors—Fraser Paper, Madawaska, Me., first with .59; West Virginia P & P, Tyrone, Pa., second, 1.32; Consolidated, Laurentide, Que., third, 1.43. In Group C—56 mills—first, West Va. P & P, Williamsburg, Va., and Congoleum-Nairn, Cedarhurst, Md., zero; third, Brunswick P & P, Brunswick, Ga., 1.62. In Group D, 10 of 92 mills had perfect records: Certain-Teed, Marseilles, Ill.; Mead, Manistique, Mich.; U.S. Gypsum, Oakmont, Pa.; Marathon, Ashland, Wis.; Fry Roofing, Compton, Calif.; Mead, Nashville; Riegel, new Riegelsville mill; Johns-Manville, Tilton, N. H., Volney, Mishawaka, Spaulding Fibre, Rochester, N. H.

The Science of DOUBLE SPEED REDUCTION
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50 Years of GEAR SCIENCE!
Knowledge accumulated over the past half century is applied to *your* problems at each of the five Pacific-Western plants.
The ability to specify and design the *correct* reducer for any application—and the facilities to produce *any required* reducer—are major services rendered to American Industry by Western Gear Works and Pacific Gear and Tool Works.
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Personals

SOUTHERN NOTES

ROBERT N. HOSKINS, industrial forester for Seaboard Air Line Railroad, Norfolk, Va., was honored by being chosen Norfolk's "Outstanding Young Man For 1951" by the Junior Chamber of Commerce there. A prominent figure in the forestry movement in the South, Mr. Hoskins not only has been active in the local and state Junior Chamber of Commerce but also with the Forest Farmers of America.

JUSTIN R. WEDDELL, public relations representative for St. Regis Paper Company at Pensacola, Fla., is now to be found at Cantonment, the mill site. Construction of additional office space at the mill made possible the removal of Mr. Weddell's office from the San Carlos Hotel building.

CAPT. PAUL MITCHELL, formerly a development engineer in the factory technical department of Union Bag & Paper Corp., Savannah, Ga., recently shot down his first MIG in Korea. He and three other U. S. jet pilots jumped a flock of 16 MIG-15's and routed them, after four more U. S. jets joined in. Capt. Mitchell is operations officer with the 158th Fighter squadron and an F-84 jet pilot.

E. I. HARDY, general manager, Orange Pulp & Paper Mills, Inc., was re-elected president of the Orange (Texas) Wharf and Dock Commission.

IVY ROBERTS, Kalamazoo Vegetable Parchment Co. salesman in his native South for 31 years, died Feb. 23 at Nashville, Tenn. He started with Whitaker Paper Co., in Nashville before World War I but in 1919, after military service, joined KVP.

JAMES W. CRAIG, a consulting forester of Leavall Woods, Jackson, Miss., became Mississippi State Forester to fill the post made vacant by the death of Albert A. Leggett. The foresters' supply business conducted by Mr. Craig is being continued under the name of Forestry Supplies, Inc.

A. SCHARWACHTER of Arizona Chemical Co. and Mr. *J. A. AUCHTER* of North Carolina Pulp Co., were elected president and vice president, respectively, of the Tall Oil Association on Feb. 19 at the Biltmore Hotel, New York City. The Association has been concentrating on distributing bulletins on the uses for, and handling of crude and refined tall oil. *DR. ARTHUR POLLAK* is technical consultant. *DERNELL EVERY* is secretary-treasurer, at 122 East 42nd St., New York 17.

Rohm & Haas Opens New Southern Base

The Rohm & Haas Co. of Philadelphia has opened new offices and warehouse in Charlotte, N. C., to improve services to the Southern pulp and paper mills as far as the Gulf Coast. Two 10,000 gal. tanks with pumps for liquid resins, particularly Uformite 435 and other Uformite adhesives is a feature. Better service on Triton detergents and wetting agents and other Rohm & Haas products is offered.

P. H. Del Plaine is in charge here of all operations in the South. Based at Charlotte with others will be C. L. Smith of the Resinous Products division.

two-sidedness of colored paper can be corrected

The General Dyestuff Corporation pioneered the first equipment for correcting two-sidedness of colored paper *mechanically* by STAINING AT THE SIZE PRESS. With the cooperation of progressive paper mills this technique has been perfected to a point where two-sidedness can be virtually eliminated.

Paper mills now operating at speeds up to 800 feet per minute and higher are turning out paper showing less two-sidedness than was accepted as a practical minimum when running slower than 500 feet some years ago.

If you have a two-sidedness problem consult our nearest office. They will provide technical assistance in adapting your size press to take advantage of the latest developments in systems for correcting two-sidedness.

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APPLYING SPEED REGULATORS

ROTATING — ELECTRONIC — MAGNETIC

In this article, PULP & PAPER brings its readers an authoritative discussion of three types of speed regulators.

We are told by experienced electrical engineers in the industry that the future holds much promise for newest type—the magnetic. But the Rotorol is expected to hold its own in the future, and there may be less demand for the electronic.

The magnetic amplifier is talked of as "a coming thing" by one engineer we discussed this article with. But so far its uses are mainly on reel drives for tension control. Also for electric carriages in the wood plants. Combinations of Rototrol and magnetic are discussed and reported used. An appeal of the magnetic amplifier is the lack of maintenance required.

By R. R. Baker

Industry Engineering Dept.
Westinghouse Electric Corp.
East Pittsburgh, Pa.

and

C. P. Croco

Control Engineering Dept.
Westinghouse Electric Corp.
Buffalo, N. Y.

The paper industry according to recent estimates operates with an installed motor capacity of some 2½ million hp. Of this total power requirement, perhaps 5% or more is made up of drives requiring adjustable speed operation. Such drives are required on all of the paper or board forming machines, on most of the paper processing machines and on a few of the paper machine auxiliaries such as wire shakes, rotary screen filters and Feed conveyors.

The operating requirements of these applications requiring adjustable speed service are shown in *Table I*.

TABLE I
OPERATING REQUIREMENTS OF PAPER MILL APPLICATIONS

APPLICATIONS	CAPACITY	PRODUCTIVE SPEED RANGE	THREADING SPEED	SPEED REGULATION	MULT. OR SINGLE MOTOR	CONTROL FEATURES	
						INDIVIDUAL	GROUP
PAPER OR BOARD FORMING							
(a) SECTIONAL DRIVE	5-500 HP	2/1 TO 10/1	NO	PROD. SPEED ±1%	MULT.	START-STOP BRAKE INCH SPEED-MATCHING	START-STOP PRESET SPEED
(b) LINESHAFT DRIVE	50-1000 HP	2/1 TO 10/1	NO	PROD. SPEED ±1%	SINGLE	START-STOP PRESET-SPEED	NONE
COATING-WAXING-PASTING ROOFING-IMPREGNATING							
(a) SECTIONAL DRIVE	5-25 HP	2/1 TO 4/1	YES 1/10 MAX.	PROD. SPEED ±5%	MULT.	START-STOP BRAKE INCH SPEED-MATCHING	START-STOP SPEED-ADJ. THREAD
(b) LINESHAFT DRIVE	25-100 HP	2/1 TO 4/1	YES 1/10 MAX.	PROD. SPEED ±5%	SINGLE	START-STOP SPEED ADJ. THREADING	NONE
SUPER CALENDER	50-500 HP	2/1 TO 3/1	YES 1/20-1/40 MAX.	PROD. SPEED ±5% THREAD SPEED ±2%	SINGLE	START-STOP THREADING UNIFORM-TORQUE BRAKE PRESET-SPEED	NONE
WINDER-REWINDER SLITTER	10-250 HP	3/1 TO 4/1	YES 1/20-1/40 MAX.	PROD. & THREAD ±5%	SINGLE OR MULT.	START-STOP THREADING UNIFORM-TORQUE BRAKE PRESET SPEED	SAME AS INDIVIDUAL
ROTARY CUTTER	3-25 HP	4/1	YES 1/20 MAX.	PROD. & THREAD ±5%	SINGLE	START-STOP UNIFORM-TORQUE THREADING SPEED ADJ.	NONE
WIRE SHAKE	3-15 HP	4/1	NO	MANUEL ADJ. FOR SPEED COMP.	SINGLE	START-STOP SPEED ADJ.	NONE
ROTARY SCREEN FILTER	3-15 HP	2/1 TO 4/1	NO	MANUAL ADJ. FOR SPEED COMP.	SINGLE	START-STOP SPEED ADJ.	NONE
FEED CONVEYOR	1-50 HP	2/1 TO 4/1	NO	MANUAL ADJ. FOR SPEED COMP.	SINGLE	START-STOP SPEED ADJ.	NONE

Fundamentally the d-c motor is the most suitable for this adjustable speed service, although some ingenious devices have made the inherently constant-speed a-c motor usable where the operating requirements are not too exacting.

In most paper mills the use of a d-c motor makes it necessary to provide equipment for converting from alternating to direct current as the primary source of power supply is alternating current. Such a source of direct current must be of adequate capacity to meet the total d-c power demand.

A combination of d-c motor, ac-dc power conversion equipment, constant voltage exciter and control arranged for obtaining a speed range by armature voltage or a combination armature voltage and motor shunt field control ideally meets the requirements of practically all applications in the paper industry requiring speed adjustment. With this system, the speed of the d-c motor is adjusted either by means of a single rheostat in the generator field circuit or by means of two jointly-operated rheostat, one in the generator, and one in the motor field circuit. With this method of operation, any speed range up to 40 to 1 can be obtained with fairly close inherent sped regulator at all operating points within the speed range. When this d-c adjustable speed drive system is laid out for full speed range by generator voltage adjustment, it is capable of developing constant torque over the operating speed range. This torque characteristic meets practically all of the adjustable speed paper mill applications, however, where increased torque capacity at reduced operating speeds is required, it can be obtained by operating over a portion of the speed range by motor shunt field control.

This form of adjustable speed d-c motor drive, making use of an individual ac-dc power set, can be arranged for applications having a single intake shaft such as a supercalender or paper machine lineshaft drive, or it can be arranged for applications having a single intake shaft such as a supercalender or paper machine lineshaft drive, or it can be arranged for applications having a number of intake shafts such as sectional drives on paper forming machines, roofing machines, coating machines and other similar applications.

Certain of the paper mill applications require closer speed regulation than is inherent with this system. This is particularly true of the paper forming operations. In such cases automatic speed regulating equipment must be provided in order to secure the accuracy required. There are a number of different types of automatic speed regulators and most of these devices maintain operating speed by automatic control of the excitation of either the d-c motor or the d-c generator. With these systems a speed-indicating tach-

The New SUMNER Hydraulic SLAB BARKER

THE SUMNER IRON WORKS is the pioneer in the design and construction of Hydraulic Slab Barkers. SUMNER engineers have continuously studied jet pressures, hydraulics of high pressure nozzles, rate of feed and other highly-important component operations of this equipment.

This new barker is the result of joint collaboration between the Canadian Sumner Iron Works, Limited, Mr. Frank Swift of Crown Zellerbach Corporation, and Mr. Angus Stewart of International Pulpwood Supply.

The results have been incorporated into the SUMNER Oscillating type Hydraulic Slab Barker to give better operation with less water consumption, thereby substantially lowering both installation and operating costs.

The unique oscillating nozzle using a relatively high water concentration enables the toughest barks to be removed with a lower overall water usage.

Send now for further information on the considerable savings available to you through the installation of the SUMNER oscillating type Hydraulic Slab Barber.

Designers and Builders of Pulp and Paper Mill, Sawmill, Boardmill and Shingle Mill Equipment

ESTABLISHED 1892

SUMNER IRON WORKS

EVERETT, WASHINGTON

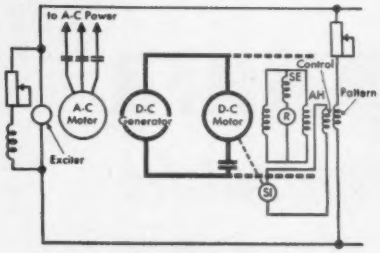


FIGURE 1—ADJUSTABLE VOLTAGE D-C MOTOR DRIVE With ROTOROL Speed Regulator

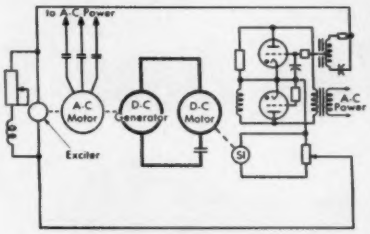


FIGURE 2—ADJUSTABLE VOLTAGE D-C MOTOR DRIVE With ELECTRONIC Speed Regulator

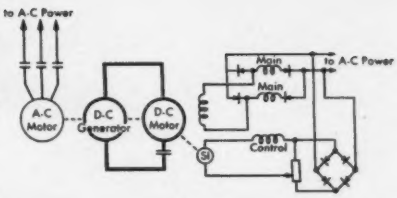


FIGURE 3—ADJUSTABLE VOLTAGE D-C MOTOR DRIVE With Speed Regulator employing MAGNETIC Amplifier

ometer is connected to the main drive and produces a signal voltage proportional to the operating speed. There are three principal types of speed regulators available for this service where very accurate speed regulation is required:

1) the rotating regulator (Rototrol)
2) the electronic speed (Rototrol)
3) Speed regulators utilizing magnetic amplifiers.

Rototrol

Figure 1 illustrates the variable voltage d-c adjustable speed drive with a Rototrol speed regulator in control of the excitation of the d-c motor for maintaining close speed regulation of the drive. This arrangement of the Rototrol circuit is very suitable, particularly where the main d-c generator serves more than one d-c motor, as on sectionally driven paper processing machines. Where the main d-c generator is required to serve only a single motor, the circuit is modified so that the Rototrol provides controlled excitation for the main d-c generator instead of the d-c motor as shown.

The Rototrol, a form of rotating regulator, is similar in design to the conventional quick response d-c exciter, however, it has a number of independent field windings and it is operated over the straight portion of its saturation curve. As illustrated in *Figure 1* the Rototrol is provided with four separate field windings which include:

1) Self-energizing field labelled "SE"
2) Pilot field labelled "Control"
3) Pattern field labelled "Pattern"
4) Anti-hunt field labelled "AH."

The "self-energizing" field is operated in series with the Rototrol armature, and the field circuits are balanced so that the voltage produced by the Rototrol is such as to maintain under all operating conditions within operating range, a balance between the Rototrol "Pattern" field and the "Control" field.

Both the "self-energizing" and the "anti-hunt" fields are excited from the Rototrol armature circuit. The "self-energizing" field is operated in series with the armature, whereas the "anti-hunt" field is operated in parallel with it. Both the "pattern" and "control" fields are separately excited. The "pattern" field normally sets the pattern of performance and the operating speed can be adjusted by adjustment of the rheostat in series with this field. The "control" field provides a means of measuring the operating results produced by the regulator and comparing these results with the prescribed "pattern." The "control" and "pattern" fields normally are operated differentially, and any net difference in the field ampere-turns produces a highly amplified corrective action on the part of the Rototrol to reduce this net difference to zero. The "self-energizing" field supplies the motor excitation required to maintain the operating speed as adjusted. The "anti-hunt" field permits obtaining high speed response from the regulator without causing hunting.

With this method of automatic speed regulation, a voltage signal proportional to the operating speed of the tachometer generator (labelled "SI" in the figure) connected to the main motor drive is balanced against a reference voltage which is obtained from a constant voltage reference bus. In the example shown in *Figure 1*, this reference is adjustable to provide for the operating speed range required with the drive.

With this method of speed regulation it is possible to maintain operating speed within $\pm 5\%$ over an operating speed range of 40/1 or more, as may be required by the actual drive application. The Rototrol presents no more of a maintenance problem than the conventional d-c exciter. It is provided with air gaps which are comparable with the standard d-c machine. The brushes are standard commercial sizes and are operated at low current densities. Not less than two brush arms per polarity are used, which serve to maintain a fixed brush drop. The stator frame of the unit is usually hydrogen-annealed to reduce hysteresis and residual magnetic effects. (*Eds. note—An application is shown in photograph of supercalender and drive with this article*).

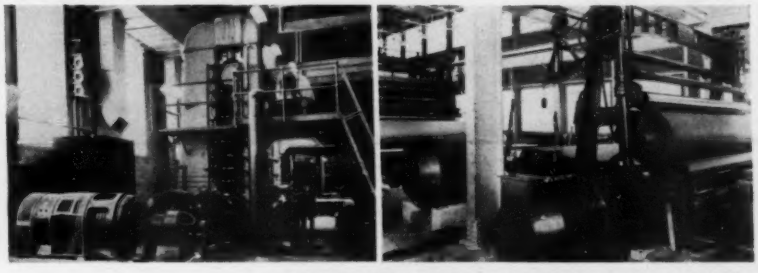
Electronic Regulator

Figure 2 illustrates a circuit with electronic speed regulator applied to a d-c adjustable-speed drive with the regulator in control of the excitation of the d-c motor. As in the case of the Rototrol speed regulator, a tachometer generator (labelled "SI" in the figure), driven from the main d-c motor, provides a signal voltage for the electronic speed regulator. Where the drive equipment includes more than one motor, as with sectional drive, the regulator is arranged to control the motor shunt field excitation as shown. However, if only a single motor is required, the electronic regulator is modified to provide automatic control of the d-c generator excitation.

The electronic regulator consists essentially of a grid-controlled rectifier, which is operated in the motor or generator shunt field circuit. This regulator supplies excitation in accordance with the balance between the tachometer generator voltage and the voltage drop appearing across the potentiometer connected in the constant voltage exciter circuit. By conventional methods through automatic control of the firing angle of the thyratron tubes,

(Continued on Page 96)

MODERN HIGH-SPEED SUPERCALENDER With Adjustable-Voltage D-C drive and motorized reel providing a 20/1 operating Speed Range. ROTOTROL accurately maintains threading speed —also serves to automatically adjust operating speed of reel motor to compensate for changes in roll diameter.

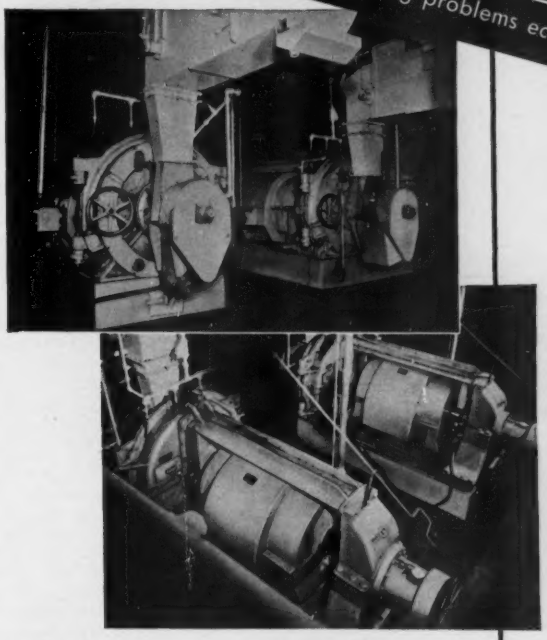


A 200-HP, SINGLE-MOTOR, ADJUSTABLE-VOLTAGE D-C CAMERON WINDER drive with braking generator provides for speed adjustment from 50 to 3500 FPM. On applications of this type, the MAGNETIC amplifier assures constant threading speed as well as uniform sheet tension both during acceleration and normal operation.

PINPOINT

your pulp quality requirements with a Sprout-Waldron refiner

FIR-TEX INSULATING BOARD CO. CHOOSES SPROUT-WALDRON'S to solve refining problems economically!



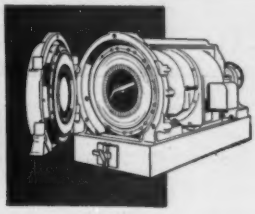
Two Sprout-Waldron 36-2 Refiners prepare pulp from steamed chips for the well-known "FIR-TEX" INSULATING BOARD.

- High pulp quality
- High capacity
- Flexibility of operation
- Rugged construction
- Low maintenance

Are you on our **BETTER FIBERS mailing list?**

This Sprout-Waldron technical publication reports important information on new and improved pulping processes—including semichemical pulping.

We will gladly send you copies regularly. Write Sprout-Waldron & Company, Inc. 32 Logan Street, Muncy, Pennsylvania.



SPROUT-WALDRON

PULP REFINERS

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COMPANY COMMUNICATIONS — WISCONSIN WORKSHOPS

(Continued from Page 42)

The Thilmany Poll

One of the best Workshops last year was one where E. H. Jennings, president of Thilmany Pulp & Paper Co., and Nathan Bergstrom, president of Bergstrom Paper Co., talked frankly of the communication efforts made in their mills.

An employe and townsfolk poll conducted for Thilmany was quite extensive and illuminating.

"We wanted to *discuss;* not *propagandize,*" said Mr. Jennings.

Chester Hill, psychology professor at Lawrence College, Appleton, Wis., who had worked at Thilmany, asked permission to make the poll. Thilmany management agreed, providing conclusions and summaries came *from* the college—*not* the mill. A half-hour's pay was offered employes who answered a long questionnaire, and 750 out of 1,250 responded. Nearly all took additional time to write comments.

The local newspaper played up the townsfolks' poll. There happened to be a large percentage of complimentary answers for Thilmany management—but the company wasn't fishing; it wanted repliers to "blow their tops."

For instance, it gave workers 22 chances to cite things they were dissatisfied about —their jobs, boss, pay, department, "too much pressure," "slow promotions," "too many bosses," etc. The fewest checks, of course, were after "not enough work to do." But many of the questions were checked by 10% or thereabouts, and variations were interesting. Only 8% didn't like their jobs, only 10% didn't like their boss.

Another set of questions asked what they liked most. Hospitalization and insurance were highest, each with 71%, fellow workers with 63% and vacations with 60%. Recreational activities got only 8%, which is, of course, not a company responsibility.

There were 93 questions or sets of questions, far too many to go into detail about here.

What Employes Thought of Profits

The answers to a series on profits were interesting. There was a wide and pretty even division in replies to a query as to what a reasonable net profit for the company ought to be—from 1 cent to 50 cents on each $1 of sales. The largest group, 11%, thought it ought to be ten cents, 7% thought 5 cents, all others were smaller percentages. The votes were also very evenly and widely scattered on what they thought the *actual* net profit was—the largest groups checking from 10% to 25%.

There were queries on "peace of mind," on "teamwork," on advance notices of changes affecting a worker, on safety rules, on "burying grievances," on cost of living and pay, on "rating your boss" some were said to lose their temper, tend to argue, be bossy, but biggest vote described bosses as "kind and friendly" and "hard working."

Interesting was a 60% vote against the taking of "vacation pay" instead of actual time off.

The final query was—among the subjects covered, where was most need of improvement? And 32% checked "pay," 21% promotion, 20% working conditions, 20% job security, 19% employe morale, 12% the company's future, 11% employe's relation to management, 10% methods and

"FUTURE POLICY-MAKERS OF COMMUNITY"

Here is a company communications program in action.

For an entire day, 60 high school children of Beloit, Wis.—the "future policy-makers of the community"—were guests of Beloit Iron Works. The movie "Paper Industry" and the program with visual aids—"Our American Business System"—which are discussed among various media of company communications in the article on these pages about the Wisconsin Workshops, were both used in Beloit program.

A spokesman for Beloit Iron Works told PULP & PAPER that it believes that "every individual and every company can help in the vital job of selling the American free enterprise system to the young people who are our future leaders."

C. R. "Cash" Whipple, a Beloit Iron Works veteran since 1904, now in its sales department, was chosen to tell the youngsters the company history from his very personal angle. He told of its growth from 100 employees in 1904 to 1700—how it has built more than 460 new machines since it was founded in 1858.

"CASH" WHIPPLE, well known Sales Engineer of Beloit Iron Works, is shown in top picture, telling school kids his personal story of the company at a "Student Day" Program. Below, youngsters, wearing safety glasses, watch grinding of a 12-ft. Yankee Dryer. In background below and top left is school teacher, Paul Nee.

Spokesman for Beloit

The reason "Cash" Whipple was an ideal choice to tell the story of industry to the Beloit youngsters was that he had the longest service of any employe, and came up through the ranks. When "Cash" graduated from the eighth grade, with no definite plans for the future, a friend persuaded him to learn mechanical drawing by mail. He borrowed money from his father to pay for the course. His father was a former Beloit Iron Works employe. "Cash" started as an apprentice.

As a matter of fact, when Mr. Whipple started as an apprentice draftsman, he didn't have much chance to draw. "I was office boy, janitor and general handyman," he said.

There were only three Beloit draftsmen in those days, and Mr. Whipple couldn't get a drawing job till one resigned. By 1920 he was chief draftsman heading a staff of eight. In 1926. when a sales engineer became ill, he got his big chance. He has visited most mills in U.S. and Canada, and is especially well known in North Central and Northeast U.S.

Announcing the 1952

TENAX FISHING AWARDS

sponsored by LOCKPORT FELT COMPANY for

PAPER, PULP AND PAPERBOARD MILL EMPLOYEES

...anywhere in the U. S. A.

This is an experiment, folks! Knowing how many of you men and women love to fish, the makers of Tenax Felts are giving you something *extra* to fish for... 46 worthwhile prizes. We sincerely hope this contest will be welcomed so enthusiastically that it can become an annual event.

GET ENTRY BLANKS AT YOUR OWN MILL NOW

See your bulletin board or ask your mill foreman for easy contest rules, official entry blanks and list of fish for which prizes will be awarded. Contest starts April 1st—ends midnight, October 1st, 1952. Get started early—because in this contest amateurs can win as easily as experts. First, second and third prizes will be awarded in each of 15 separate classes—for the heaviest of 15 different varieties of fish, from perch and sunfish to muskalonge! In addition, you may win the National Grand Prize! So... let's go fishin'!

THESE PRIZES MUST BE WON!

NATIONAL GRAND PRIZE

10 H. P. JOHNSON OUTBOARD MOTOR

For the fish nearest the weight of all-time record fish of same variety, as listed in FIELD & STREAM RECORD BOOK.

15—1st Prizes.....$100 Savings Bond
(1 each variety of fish listed on official entry blank)

15—2nd Prizes .....$50 Savings Bond
(1 each variety of fish)

15—3rd Prizes.....$25 Savings Bond
(1 each variety of fish)

LOCKPORT FELT CO., NEWFANE, N. Y.

organization, another 10% supervision, and only 9% checked company benefits.

A Bergstrom Poll

Bergstrom Paper Co., after presenting the DuPont "How Our Business Operates" course, was faced with the question, what to do next? Of its 300 employes, 153 employes attended all three sessions, 218 attended two and 272 at least one. In a follow-up poll, nearly all voted that the meetings were worthwhile and should be continued, but voted 94 to 74 for different "subject material."

The largest number, 72, asked for meetings on "future outlook of our company," 36 wanted discussions of the paper industry, only 29 wanted government for the subject. There were fewer votes for business trends and more general subjects. Many responded by suggesting specific topics.

On Communications Media

The Workshops took up some of the well known media for communications. Many constructive observations were made as follows:

Open Houses—Should be planned far ahead, to work out many details. Tours should tell "a clear story," not be fatiguing. Plan refreshments and care of children—perhaps a nursery. Don't overdo "selling" or boasting. Employe cooperation is vital and many will take pride in showing work. Safety signs, aisle lines, signs describing machines, welcome signs, special displays, especially of end products, souvenirs to take home—all were recommended.

B-I-E Days—Several industries in Wisconsin towns cooperate in Business-Industry-Education Days—joint projects. These are primarily for teachers, but it was recommended that clergy, town officials, school board members and country teachers as well, be included. In some towns union representatives served on plant committees. Visits should give company officials and teachers a chance to meet and talk. Considerable thought should be given to refreshments, whether cocktails or soft drinks.

Interesting was fact that some teachers asked for summertime jobs. Discussion indicated at one town's B-I-E Day some teachers resented industry wage scales. A suggested good reply: To point out how much of teachers' pensions are borne by industry.

Press and Radio Relations—One person in each mill should be responsible. Reporters should be invited to tour mills. Provide quality, not quantity in news releases—don't deluge them with mediocre material. Employes should learn the news, on bulletin board or in meetings, before it is released to press or radio. Editors and radio managers should be invited to discuss cooperation.

House Organs, or Employe Publications —One leading company executive participating in the Workshops told PULP & PAPER that in his personal opinion house organs do more damage than good, stirring up jealousies by publicity of favored persons, and even of babies and families, and by taking time of valuable management men in discussing gossip and triviata.

However, the majority favor well-run publications (it is estimated there are 5,000 in U.S. and Canada). Favored material—company economics, descriptions of operations, explanations of policies and programs, new products and end products, community stories, employe recognition stories, and emphasis on pictures and personal news. A full-time editor was recommended.

Wausau Paper Mills, in its *Sidelights*, runs an "annual" type page on each department, with pictures of "the team," working records, etc., also supplied supervisors for their files.

Management News-Letters—Growing acceptance of this was reported. On executive's letterhead. Conversational "tone" —man-to-man letter. To tell what is going on with the company. Less costly than magazines for smaller companies.

Employe Handbooks—Not just a book of rules, but informational in a pleasant way. With company history, products, etc. Can be used to encourage interest of family and friends in community.

Bulletin Boards—Local, not syndicated stuff is best-liked. Locate boards properly, but not in congested areas. Use color and make attractive. Change material frequently. Scott Paper Co.'s Marinette, Wis., mill reported it featured "Spot News" on 26 boards, all dittoed in purple ink on yellow paper. A striking display used at Hoberg Paper Mills, showing flames and firehose in action superimposed a familiar plant building view. It could be used by other mills, providing a picture of their own plant on a back-light glass.

Letters to Service Men—Different patterns are followed. But letters are personalized, aim to "keep track" of men going into services. Some sent to the man, some to next of kin. Four top execs sign the letter from Hoberg Mills; the service man gets a $10 fountain pen to write with, his picture is taken for the house organ and a gold-tone print given to mother or wife. He also has a talk with the personnel director about government and company benefits.

Movies—IS, WPI has a movie in sound and color entitled *"Paper, Mister?"* and an introductory talk available for use. *"Where There's Smoke, There's Prosperity"* is a Thilmany Pulp & Paper Co. color film showing mill scenes, town scenes and townspeople, with commentary by an actor playing role of a worker. Praised because it tells exact contributions of mill to the town through taxes and payroll.

A *"Paper Book"* was another special project undertaken by the IS, WPI for schools, libraries and general public. Teachers had expressed a desire for a central library of information on industries.

IS, WPI and its guiding committee and the Workshops are being carried forward on a basis of pro-rated expenses. A 50-cent assessment per employe per mill was the basis adopted with executive committee empowered to double it this year, if necessary.

One of the IS, WPI's slogans seems to sum up its work especially well—"To accomplish the greatest good, our individual companies must do their work themselves, where they live."

Michigan Waste Plant

Consolidated Paper Co., Monroe, Mich., is installing this year the first unit of a waste treatment plant at its North Side Mills on River Raisin. Consolidated is straw corrugating and other board products. The new waste treatment plant will be similar to plants for the West and South Side mills.

Another Newsprint Plant Sought for South

A de-inking newsprint plant, using waste paper, is being discussed for Tyler, Tex., to be called Superior Paper Co., headed by John A. Miller. Financing is incomplete.

C-Z EMPLOYES NOW MAY EARN MASTER'S DEGREE

A GRADUATE PAPER SCHOOL

AT CROWN WILLAMETTE PAPER SCHOOL dinner:

Top row l. to r.: George W. Charters, Assistant Resident Manager, Camas; Regent M. J. Otis, West Linn Resident Manager; Regent F. A. Drumb, Camas Resident Manager; Dr. A. L. Strand, President of Oregon State College; Regent R. O. Hunt, CZ Vice President, San Francisco; Gov. Arthur B. Langlie of Washington; Chairman Wm. D. Welsh, C-Z Executive Assistant, San Francisco.

Lower row l. to r.: Vice Principal C. A. Enghouse, Assistant to Resident Manager, West Linn mill, is assisted by Registrar J. L. Edwards, of Technical Department, in presenting diplomas; Gov. Langlie addressing school graduation; Walter C. Jacoby, Acting Dean and Technical Supervisor; Dean G. W. Gleeson of Oregon State College.

For what is believed to be the first time in the history of any industry, a company-sponsored school has been upgraded to include a *collegiate-accepted graduate school.*

This was thrilling news for the Crown Zellerbach organization in the West, revealed in a surprise announcement at the Crown Willamette Paper School's 19th annual graduation exercises at a dinner in Camas, Wash., Mar. 6.

It had been a carefully guarded secret up to the dinner event, where the announcement was made dramatically before an audience including the governor of Washington, A. B. Langlie; the vice president in charge of all C-Z operations, Reed O. Hunt, many other company executives and guests, and 14 graduating "seniors" of the Paper Schol and 169 other employes receiving diplomas for finishing first, second and third year courses.

This unusual industry school, whose credits for many years have been acceptable toward college bachelor's degrees, now offers master's degrees in science and engineering to eligible employes.

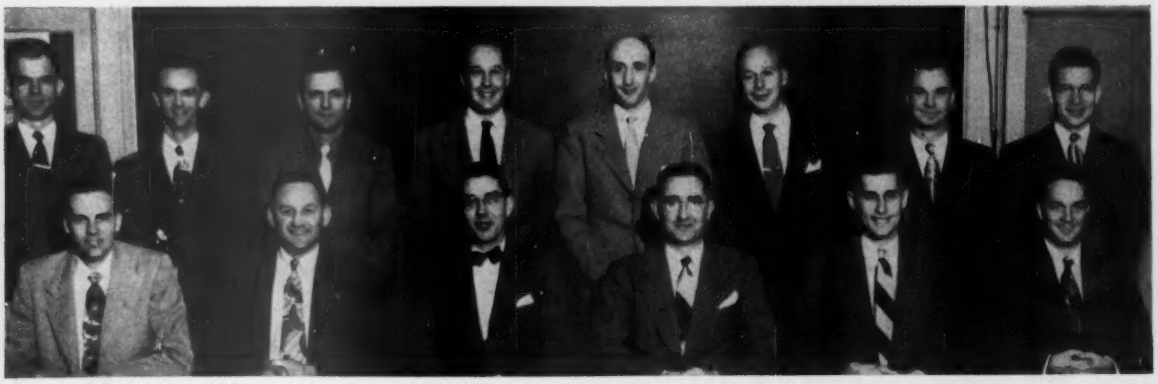
Oregon State College, already nationally distinguished for its cellulose and lignin and forestry courses and research—some especially undertaken for this industry—is the college which has made this possible by designating the Paper School as a graduate school within its structure.

THESE 4th YEAR HONOR STUDENTS at Paper School won all-expense paid tour of Pacific Northwest mills. They are, l. to r.: PIERRE F. BARNETT, Expeditor, West Linn Mill; ROBERT F. DITEWIG, Traffic Mgr., Northern District, Portland, Ore.; LAURON R. GIERSCH, Technician, Camas Paper Mill; and HARLAN M. MEEKER, Draftsman, West Linn Mill.

G. W. Gleeson, dean of engineering and industrial arts at OSC, announced the arrangement, saying the graduate school would start up at Camas, Apr. 1, on the same quarterly basis as at the college, with expected approval of the Oregon State Board of Higher Education. August L. Strand, president of OSC, also addressed the dinner, and gave the program his blessing.

Qualifications for the graduate school, of course, must include a bachelor's degree. It is now possible that some employes in management or supervisory positions will want to attend the school. The company hopes to offer any courses which are in demand—possibly management courses. Extension courses will be by professors from Oregon State.

For many years now, the University of Washington and OSC have accepted undergraduate credits earned at the Crown Willamette Paper School. As customary with this precedent, it has been understood that any other state universities or similar



CROWN WILLAMETTE PAPER SCHOOL—FOURTH YEAR: First Row (left to right)—Lester O. Hagen, McClellan A. Thornton, Robert F. Ditewig, James C. Nissen, Robert C. Gilardi, Duane H. Burnet. Second Row (left to right)—Chester A. MacNeill, Jr., Don A. Pickering, George F. Rink, Lauron R. Giersch, William R. Cudney, Alan S. Rosenfeld, Harlan M. Meeker, Pierre F. Barnett.

CROWN WILLAMETTE PAPER SCHOOL—THIRD YEAR:
First Row (left to right)—Donald K. Preuss, Albert J. Beauchamp, Kenneth M. Bethune, Robert B. Trosper, Charles E. Young, Glen Scharback, Charles S. Evans. Second Row—Harold E. Hickam, John C. Barnes, James B. Kitchell, Charles T. DeVoe, Charles R. Porterfield, Richard H. Kuhn, Edwin A. Woodworth, Robert M. Soden, Theophil J. Wagner. Third Row—Wilbur H. Niehaus, Albert J. LaRose, James L. Sartin, Howard P. Burrelle, Richard S. Chisum, Willard L. Carlson, Jack W. Buhler, Gerald L. Newberry, Robert L. Steinhauer, William F. Farley. Fourth Row—Oliver F. Chaplin, Bernard D. Ritchey, John M. Gant, Ruben A. Vogel, William E. Scott, Robert R. Skill, Roland G. Harris, Dale L. Darling, Melvin L. Tietz.

colleges would also accept the credits.

To earn a master's degree at the paper school will require a final three months' residence and study on the OSC campus at Corvallis, Ore., and final examination normally would be held there. Thesis work will be on plant projects under joint supervision of the paper school and an OSC official. A master's may be earned in a minimum of about 3½ years and maximum of 7 years. One-third of the work would be the on-the-job thesis and pulp and paper courses. A third of the work must be OSC extension courses, taken at Camas, Portland, Ore., where OSC has an extension school, or possibly at other C-Z mills.

Gov. Langlie's Address

Seemingly inspired by this news, the state governor made a serious and penetrating analysis of the value of education in relation to good citizenship, and "the strengthening of a free society." He discussed the private and public cost of education and declared "it is only in an atmosphere of freedom that the spirit can grow."

Gov. Langlie mentioned three interdependent rights—"the right to hold property, the right of free speech and free worship and the right of free elections" and when any one of these falls, all fall.

Walter C. Jacoby, principal and acting dean of the school and technical supervisor of the Camas mill, made the honor awards. He paid a warm tribute in behalf of all the students to A. G. Natwick, assistant resident manager at Camas and dean of the school since its inception, who is "on loan" for a year in Washington, D. C., as head of the raw materials section of the NPA pulp, paper and paperboard division.

Clarence A. Enghouse, assistant to resident manager, West Linn mill, and assistant principal of the school, had the honor of presenting the diplomas. William D. Welsh, executive assistant, San Francisco, was toastmaster and introduced the school regents, Mr. Reed, Frank Drumb, manager at Camas, and Malcolm Otis, manager at West Linn, and also the faculty—all supervisors or engineers at Camas, also men from supply companies who have lectured at the school, and other guests.

Four top 4th year students, Robert Ditewig, Harlan Meeker, Pierre Barnett and Lauron Giersch, won all-expense paid trips touring Pacific Northwest mills. Sets of the three revised volumes of *Pulp & Paper Manufacturing*, and copies of Dard

(Continued on Page 107)

CROWN WILLAMETTE PAPER SCHOOL—SECOND YEAR (1st group):
First Row (left to right)—James E. McCourt, George E. Schmelzer, Morgan J. Rees, Franklyn M. Whitney, Russell E. Lawton. Second Row—Elwyn W. Stroup, Rex R. Morris, Donald A. Mahre, LaVern W. Bailie, Jack R. Sease, Donn E. Nissen. Third Row—Robert M. Samuels, Reuben V. Brown, Paul H. Buhman, Kenneth W. Wind, Gerwin P. Dayton.

CROWN WILLAMETTE PAPER SCHOOL—SECOND YEAR (2nd group): First Row (left to right)—Lawrence N. Loban, Hubert L. Sparrow, Morris R. Rivers, William W. Frierson, Dudley Winters, Merle A. Sharp, James G. Sharp. Second Row—Kenneth L. Lorenz, Wallace H. Matthews, Roland A. Tedesco, Norman T. McLaury, Wesley S. Hicks, Dean T. Calahan, Harry F. Neilson, Gerald B. Trafton, Kelton B. Neal. Third Row—Curtis J. McKinnie, Wesley Kreiger, John V. Greville, Roy B. Mattfeld, William J. Gibbon, Wilbur D. Royce, Leonard Bartel, Clifford F. Nielsen, Joseph C. Berney. Fourth Row—Roy H. Meckley, Dan A. Deady, Howard R. Craig, Max Thrasher, Charles E. Guier, Frederick H. Milligan, Arden B. Nelson.

CROWN WILLAMETTE PAPER SCHOOL—FIRST YEAR (1st group): First Row (left to right)—Gladys M. Knapp, Helen L. Wagoner, Roberta E. Geidl, Neva L. Lamb, Margaret A. McGirr, Jean A. Ellenz, Blanche I. Dear. Second Row—Richard B. Zimmerman, Malcolm V. Greig, Christen Yang, Elbert B. Lindsey, Om P. Aggarwala, Donald L. Blinco, Donald R. Peterson, Jerry C. Stroman, Vernon I. Morgan. Third Row—Paul A. Larson, Leslie A. Trenner, Charles E. Beck, Merle E. Craig, Daniel H. Hicks, Carl P. Arvidson, William H. Weisenfluh, Robert F. Hoffman, Jr., Frederick J., Ashworth. Fourth Row—Harold E. Hafliger, George A. Higley, Archie L. Smith, Robert F. Finney, Curtis E. Hughey, Ray A. Pearson, Ralph W. Jantzer, John F. Davie, Thomas R. Quigley.

CROWN WILLAMETTE PAPER SCHOOL—FIRST YEAR (2nd group): First Row (left to right)—William P. Brock, Om P. Aggarwala, John Kaminsky, Richard G. Lowe, Lawrence N. Loban, Elbert B. Lindsey, Hollis Fleischman. Second Row (left to right)—Edward S. Karbonski, Therone I. Faris, Donald E. Clearwater, William P. Carr, Gordon Gertulla, Daniel C. Leary, George J. Schiesl, Ross L. O'Brien, Ralph H. Brothers. Third Row (left to right)—Charles O. Luchterhand, James C. Anderson, Phillip L. Moser, Lloyd D. Johnson, William E. Ginder, Jr., Robert W. Fishburn, Malcolm E. Burnett.

SPEED REGULATORS

(Continued from Page 86)

the correct excitation is provided to maintain constant operating speed of the main motor with changes in operating load or other conditions.

Regulators of this type are ordinarily specified where extremely close speed regulation is required, as on sectional drives with paper or board forming machines. Such regulators can maintain speed regulation within ±0.2 per cent over a 10/1 operating speed range provided proper anti-hunt circuits are added to the grid circuits of the electronic tubes. As would be anticipated, this extremely sensitive speed regulator requires somewhat more elaborate maintenance schedule than either Rototrol regulators or regulators employing the magnetic amplifier. However, better quality control of the component parts of the electronic regulator is rapidly overcoming such operating limitations. As the electronic regulators function primarily without moving or wearing parts and with fixed circuit adjustments, these regulators are less likely to deviate from optimum performance over extended periods of time than the Rototrol or other rotating regulators.

Magnetic Amplifiers

Although the merits of magnetic amplifiers have been very well known for a number of years, it has not been until comparatively recently that this principal has been used in place of electronic tubes or rotating regulators for automatic control of speed on industrial applications. Saturable reactors, when used in connection with plate-type rectifiers in self-saturating circuits, are known as magnetic amplifiers. Magnetic amplifiers, when used with tachometer generators, provide a sensitive means of automatically controlling d-c motor speeds. Such a regulator has no moving or wearing parts, and it can be calibrated with permanent circuit adjustments. The automatic regulator functions on the principal that control of d-c voltage can be obtained by rectifying the output voltage of a constant voltage a-c bus operated in series with a magnetic amplifier.

Figure 3 shows a magnetic amplifier which functions as a speed regulator by controlling the excitation of the d-c motor. The tachometer labelled "SI" produces a voltage signal proportional to the operating speed of the motor. This signal voltage is balanced against the voltage produced across the potentiometer, which in this particular case, is supplied from the constant voltage a-c bus through plate type rectifier units. As with the Rototrol or electronic regulator, the speed regulator can be arranged to control either the motor or generator excitation depending on whether the drive is made up of a number of individual section motors or a single motor.

Regulators of this type can maintain speed regulation within ±5% over an operating speed range of 40/1 or greater. Due to the absence of moving and wearing parts and to the fixed circuit calibration, this device requires little maintenance or attention. It is very well adapted to applications in the paper industry where the equipment must be kept in service 24 hours a day for extended periods of time.

The d-c adjustable-speed drive with automatic speed regulation where required fills a very important need in the paper industry. The selection of a proper drive for the special applications in the industry contributes materially to both quality production and efficient operation. Where the operating speed range is limited, and where the requirements for speed regulation are not too exacting, the simplest form of adjustable voltage d-c drive without automatic speed regulation may be installed. If the speed regulating requirements are very exacting, then regardless of operating speed range, electronic type speed regulating equipment should be specified. If the speed regulating requirements are not too exacting, then the d-c adjustable voltage drive with either Rototrol or with magnetic amplifier may be specified. Magnetic amplifiers require somewhat less maintenance supervision than the Rototrol, and therefore their application should be given serious consideration. (*Eds. note—An application with a Cameron winder is shown in picture with this article*).

MORNINGSTAR-NICOL CHIEFS

JOSEPH MORNINGSTAR (left), retiring President of Morningstar-Nicol, Inc., of New York, 100-year old manufacturer of starches, dextrines and adhesives, has become its Board Chairman. GEORGE J. MULLER (right) is now President of the firm. He began his career with the company in 1918 and has had charge of production and import business. Murray Stempel of Chicago is the new Executive Vice Pres., and R. Mayson Foster, of New York has been made Treasurer.

Personals

CANADIAN NOTES

RUSSELL BARRETT, vice president and assistant to the president, Dominion Engineering Co., Montreal, made a visit to the west coast in February. His company is supplying the paper machine for Elk Falls Co. at Duncan Bay, which will be in operation in June.

WILLIAM BARCLAY has retired as chairman of the board, Powell River Sales Co., Vancouver, B.C. Mr. Barclay started with the big British Columbia newsprint organization in 1916, first as assistant traffic manager. In 1937 he joined the sales company and became its first manager.

JOHN I. RANKIN has retired as chairman and president of St. Lawrence Corp., one of Eastern Canada's biggest pulp and paper corporations, with which he has been associated since 1930. He continues as a director. *M. W. McCUTCHEON* has been elected chairman of the board, with *PERCY M. FOX* as president.

A. M. HURTER, of the consulting engineering firm of Stadler & Hurter, Montreal, has returned from a trip to Europe where he visited several mills planning adoption of U.S. and Canadian machinery and methods.

E. LONNQUIST is now the mill manager for Canadian International Paper Co. at Three Rivers, Que., succeeding J. B. West.

WALTER C. KOERNER, vice president and managing director, Alaska Pine & Cellulose Ltd., has been made a vice-president of Seaboard Lumber Sales, Vancouver, B.C.

HAROLD S. FOLEY, president of Powell River Co., was expected back at his Vancouver, B.C., head office some time in April after a lengthy visit to Europe.

S. E. WILLIAMS, formerly mill manager for the company at Three Rivers, Que., has been appointed vice president and general manager of St. Lawrence Corp., according to President *P. M. FOX*. *E. P. WILSON* has been named vice president in charge of kraft and board division, and *J. W. FRIES* is vice president in charge of woodlands.

AXEL BRANDSTROM, formerly of Seattle, is spending most of his time at Castlegar, B.C., where Celgar Development Ltd., a new Celanese Corp. subsidiary plans a $65,000,000 pulp-paper and multi-use wood industry. Mr. Brandstrom is woods manager.

SEVERAL OFFICIALS of Abitibi Power & Paper Co. visited the Pacific coast in February to confer with executives of their affiliated organization, Alaska Pine & Cellulose Ltd. in Vancouver, B.C. They included *J. B. MATTHEWS*, chief forester; *C. R. SILVERSIDE*, superintendent of development; *C. B. DAVIS*, vice president in charge of woodlands; *P. J. MUNROE*, manager of new development for Abitibi's woods division.

R. H. R. YOUNG, vice president and manager of manufacturing, Pacific Mills, Ltd., Vancouver, B.C., left in February for Cambridge, Mass., where he will spend the spring taking a special course in advanced management principles at Harvard University.

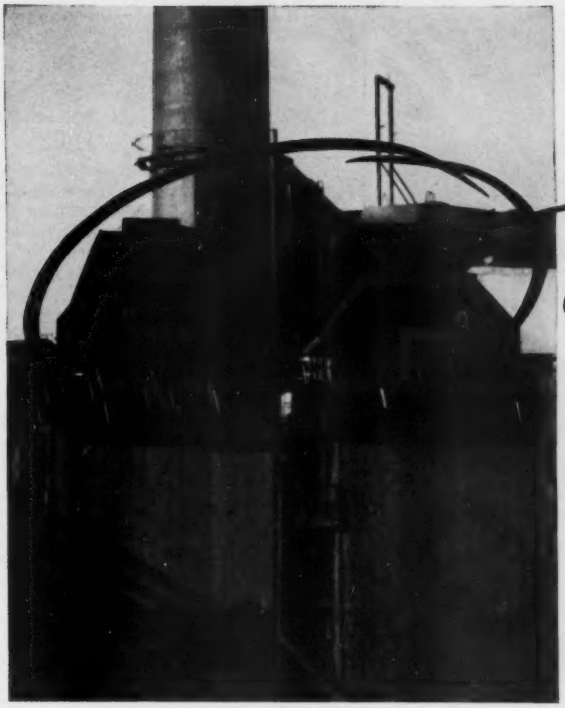
J. A. YOUNG, first vice president of Pacific Mills, Ltd., Vancouver, B.C., will this spring return to the land of his birth, Scotland, on a three months' vacation. Jack Young never lost a trace of his Scottish accent in thirty years in British Columbia.

Honolulu was visited recently by three top men in Elk Falls Co.—President *HENRY J. MACKIN*, Vice presidents *PAUL E. COOPER* and *ROBERT J. FILBERG*. Elk Falls Co., now building a newsprint mill at Duncan Bay, Vancouver Island, is a partnership of Canadian Western Lumber Co. and Pacific Mills.

IN CANADIAN NEWS

SID E. WILLIAMS (left) former Mill Manager of the St. Lawrence mill at Three Rivers, Que., has been promoted to St. Lawrence Corp., which is a merger of St. Lawrence and affiliated companies under one name, including St. Lawrence Paper Mills Co. and Lake St. John Power & Paper Co. and Brompton Pulp & Paper Co.

A. M. HURTER (right), of the consulting engineering firm of Stadler & Hurter, Montreal, recently returned from a trip to Europe and reported several mills he visited were planning adoption of American and Canadian machinery and methods.



Inside of these precipitator ducts

CONDENSATION MEANT CORROSION

ERKOTE 3X Insulating Mastic checked condensation . . . stopped corrosion!

Condensation of gasses in these precipitator ducts during cold weather produced a corrosive acid that would have in time destroyed the steel plates and required costly repairs.

To correct this condition, the exterior surfaces of the ducts were properly prepared and a sufficient thickness of Erkote 3X Insulating Mastic was applied to maintain the required temperature to prevent condensation of the gasses.

Even under the most severe winter conditions, Erkote 3X Insulating Mastic has been extremely effective in preventing corrosive condensation inside of the ducts, while at the same time thoroughly protecting the exterior duct surface. Because of its excellent bonding properties it requires a minimum of maintenance!

If you have a problem of insulation or protection against corrosion, there is an Erkote Mastic ready to go to work to save you money. An inquiry will bring one of our experienced field engineers to survey your requirements . . . without obligation, of course!

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ERKOTE PRODUCTS
Corrosion Resisting Mastics, Mica Mastics, Insulating Mastics, Vapor Seals, Troweling Mastics, Color Finishers, Industrial Paints and Varnishes.

Personals

NORTHEAST NOTES

C. E. REYNOLDS, Armstrong Cork Co., Fulton, N. Y., has been elected new chairman of the big N. Y.-Canadian Division of the Supts. Assn., completing the term of *CHAUNCEY COLE,* who resigned.

GUS HOLM, Derrico-Canastota Co., 340 East 110th St., New York City, has been named secretary of the N. Y.-Canadian Superintendents, succeeding *R. H. GREEN* of H. Waterbury & Sons. *FRANK McBREARITY* of Manhattan Rubber, whose address is P.O. box 8, Chittenango, N. Y., continues as division industrial representative.

LEONARD E. RANDECKER, head of the insurance section of Hammermill Paper Co., Erie, Pa., and acting assistant to the vice president in charge of manufacturing, who has been with that company 40 years except for signal corps aviation section service in World War I, was given a tribute in Noble & Wood's *Agitator* "Papermaker of the Month" section recently. He has been a purchasing engineer and project engineer with Hammermill, and Noble & Wood credits him with being the originator of the roll-out-of-tub type of beater in 1914—which is called the first departure from the Hollander type beater since 1610 A.D.

NEW MEMBERS of Robert Gair's Quarter Century Club are *PHILIP GUSTKE,* foreman, and *ELMER E. SLINGERLAND,* paper salesman, Syracuse. Certificates for 25 years of service were presented by *WILLIAM T. MAY, JR.,* vice president in charge of container divisions.

ANDREW M. MCBURNEY, Oxford Paper Co., has been named chief of the pulp, paper and paperboard branch of OPS to succeed *M. C. WALSH,* Champion Paper and Fibre Co., who has been appointed assistant division director of OPS' Forest Products Division.

ROBERT NIVISON has resigned as vice president of Hollingsworth & Whitney Co., although he will continue to act in a consulting capacity. Changes following the resignation find *L. G. GLAZIER* elected as executive vice president; *W. ELLIOTT PRATT, JR.,* vice president and treasurer; *FREDERICK GOODRIDGE,* vice president; *JACK B. COWIE,* vice president in charge of sales; and *CHARLES J. DYNES,* assistant vice president.

J. L. MADDEN, president of H. & W. Co., Boston, announced promotion of *KARL A. SWENNING* to the position of general woods manager.

CHARLES M. CARRIER, who has been with Great Northern Paper Co. for 36 years, has been promoted to vice president and manager of manufacturing. *C. B.*

STANWOOD, who is succeeded by Mr. Carrier, becomes director of purchasing for Great Northern.

Kelley in Northeast For H. Waterbury & Sons

Charles Kelley, Jr., has been appointed sales representative in New England, eastern New York and northern New Jersey for H. Waterbury & Sons, Oriskany, N.Y., according to Tom Rider, sales manager. Mr. Kelley served in the air force in World War II. His father founded a wire cloth firm in Pennsylvania.

Bagley and Sewall Announces Changes

T. Carter and E. Peterson, Watertown, N. Y. office of The Bagley & Sewall Co. have resigned as of March 1, it was announced by W. A. Zonner, executive vice-president of the company.

J. Scheuermann of the New York office has resigned effective April 15, according to Mr. Zonner.

Effective April 1 the New York office at 500 Fifth Ave., will be discontinued and all business pertaining to winder, paper machines, and all other equipment manufactured by this company will be handled directly from the home office, 101 Pearl St., Watertown, N. Y.

Mr. Zonner said that the management feels it will be in position to give better service to customers in the handling of all work directly from the plant in coordinating sales, engineering and manufacturing.

Heppenstall Office

Stanley J. Leen Co., 54 Wilson St., Brewer, Maine, has been appointed sales representative of Heppenstall Co., Pittsburgh, to this industry in Maine, New Hampshire, and Vermont, for chipper knives, machine knives, etc.

Fifteen Maine Lectures

Spring semester classes at the University of Maine will find 15 nationally-known specialists in equipment lecturing students majoring in the pulp and paper technology section of chemical engineering.

These specialists include: E. W. Peterson, Stowe-Woodward, Inc.; Leon Smith, Downington Mfg. Co.; G. G. Fintak, Allis Chalmers; Irving H. Peters, F. C. Huyck Co.; L. Allan, Ross Industries, Inc.; J. A. Stone, General Electric Co.; F. A. Faust, The Bristol Co.; H. O. Teeple, International Nickel Co.; B. M. Hutchins, Rust Engineering Co.; C. B. Muzzy, E. D. Jones Co.; A. Jenkins, Jr., Bird Machine Co.; and Paul Boronow, Valley Iron Works.

Powell River Work

Powell River Co. is enlarging the spillway of its Lois River power dam at a cost of about $80,000.

Crown Z Decides Against Kraft Mill

Crown Zellerbach Corp. has officially announced that it has decided to relinquish its DPA Certificate of Necessity for $19,700,000 for another kraft pulp mill or expansion on the Columbia River. It decided the expansion would be unwise at this time because of the recent substantial kraft increases elsewhere and materials shortages.

Chemistry World Notables Coming to Coast Seminars

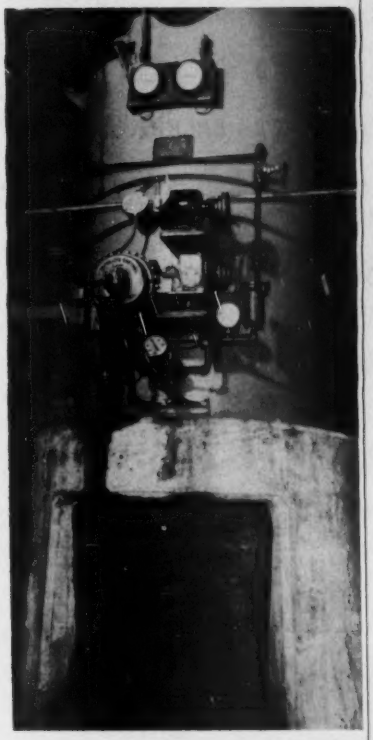
Dr. Karl Freudenberg, world leader in lignin studies and outstanding authority on cellulose, who heads the famed Institute for Chemistry of Heidelberg University, Germany, is invited to conduct seminars to be sponsored by Pacific Coast TAPPI and the Pacific Coast mills in September.

If Dr. Freudenberg can come, he will be invited to talk on the nature of lignin and its reactions in pulp and bleaching, said Dr. Joseph McCarthy, chairman of the seminar committee. Dates for the seminars, attended by delegations of young employes from upwards of 25 mills or more, will be Sept. 18-19 at the Multnomah Hotel, Portland, Ore., and Sept. 22-23 at U. of Washington, Seattle.

It is expected he also will address the 3-Way meeting Sept. 25-27 at the Empress Hotel, Victoria, B.C., of Coast Superintendents, Coast TAPPI and Western Branch of Canadian Technical Section.

It is regretted that ill health prevented Dr. Georg Jayme, world-famed Darmstadt wood technologist, from accepting this year's invitation, but it is hoped he can come next year.

Adams Water Filter Used In Western Wood Barker Plant

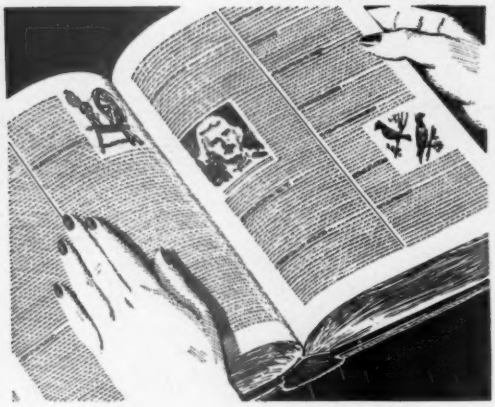


In view of narrow tolerances in high pressure pumps required for hydraulic log barking, and because of closely machined surfaces and fine nozzles of barkers, this 48-inch outside diameter water filter supplied by R. P. ADAMS CO., INC., Buffalo, N. Y., is an important unit in a modern western pulp mill's wood room. Filtration is mandatory if water supply contains solids which would cause abrasion or scoring. Pressure through barker nozzles is usually 1100 to 1300 p.s.i. This is Model AWF-116 automatic poro stone filter, filtering at 1200 g.p.m.

Powell River Plans For Mill at Kitimat

Plans of Powell River Co. for a pulp or newsprint mill, possibly in partnership with Aluminum Co. of Canada, near Kitimat, B.C., are still indefinite, but application has been made for a management license from the British Columbia government to cover 350,000 acres of timberland and annual allowable cut of 80,000,000 feet of timber.

This application was described by Frank P. Brown, Vancouver, B.C., representing both Powell River and Alcan in Hecate Development Ltd., the project's corporate name, as merely a tentative exploratory move.



A Story of Fine Calendering

Nowhere is fine calendering more important than in encyclopedia-type paper. It requires a high quality finish to make possible clear pictures and easy-to-read type impressions.

Paper mills all over the country are getting this type of finish with Butterworth Calender Rolls. In many cases they have standardized on Butterworth after making a simple production test.

Try the same test in your mill. Place a single Butterworth Roll in the stack. Examine the even finish. Time it in operation. See how many hours it will produce without requiring turning down or refilling. Let the figures — your own figures — show the value of standardizing on Butterworth Calender Rolls.

Butterworth Calender Rolls for coated stock are made of fine grade long staple cotton. We also build fine quality paper rolls for super and glassine calenders and special rolls for embossing. We will refill your present rolls. Get in touch with us on your calendering needs.

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2—12′x45′ M-BAR BARKING DRUMS

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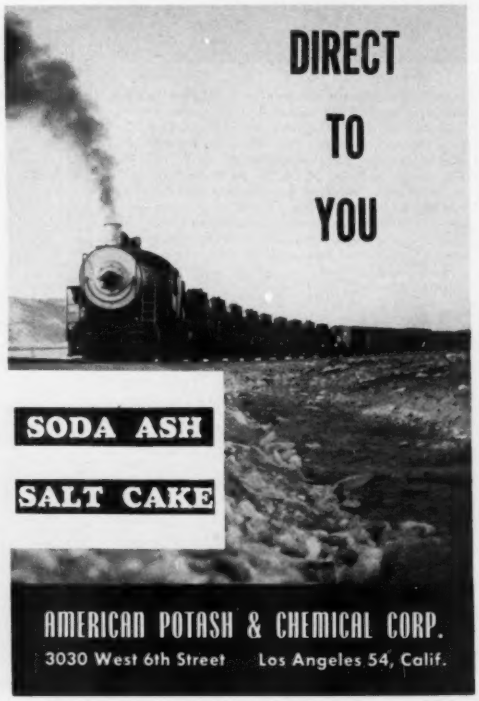

CROWN WILLAMETTE SCHOOL

(Continued from Page 94)

Hunter's *Papermaking* and George Witham's *Modern Pulp & Paper Making* were honor student awards.

Also two year subscriptions to PULP & PAPER for all honor students and one year subscriptions for all 4th year students were additional prizes. Complete list of honor students follows:

HONOR AWARDS:

FIRST YEAR—First place, Curtis E. Hughey, Camas mill; second, Vernon I. Morgan, Camas. Honorable Mention: Blanche I. Dear, Camas; Paul A. Larson, Camas; Donald R. Peterson, Camas; Harold E. Hafliger, Western Gummed and Coated Products, North Portland.

SECOND YEAR—First, William P. Brock, Camas; second, Daniel C. Leary, Western Waxed Paper Co., North Portland. Honorable Mention: James E. McCourt, Camas; Rex R. Morris, Camas; William P. Carr, West Linn; Hollis W. Fleischman, Camas;

THIRD YEAR—First in Camas group, Albert J. Beauchamp; second, Donald K. Preuss. First in West Linn group, John D. Elder; second Edwin A. Woodworth. Honorable Mention: Oliver F. Chaplin, Portland; Charles T. DeVoe, Camas; William F. Farley, Camas; Charles E. Young, West Linn.

FOURTH YEAR—First place Camas Group—Robert F. Ditewig, Portland Office; second, Lauron Giersch, Camas. First, West Linn Group—Harlan A. Meeker; second, Pierre F. Barnett. Honorable Mention: Alan S. Rosenfeld, Camas, and William R. Cudney, Camas.

Bleach Plant Completed at Mobile

James L. Madden, president of Hollingsworth & Whitney Co., Boston, announces that a new bleach plant at the company's kraft mill in Mobile, Ala., will come into production in April if sufficient chlorine is available.

NEW TYPE CONTROLLERS

WM. KENNEDY, Mason-Neilan Regulator Co., tells A. C. Bird and B. A. Amnable, Roderick O'Donoghue engineers, some of features of new Masoneilan pneumatic controllers which were shown for the first time during Paper Week in New York.

NEW SHARTLE VELOCITY-TYPE CLEANING UNIT for dirty stock previously known as *HYDRACLONE* has been changed to *HYDRAFUGE* Separator. The Hydrafuge Separator is a high-velocity unit utilizing centrifugal force as a means of separating heavier than water material from paper stock—its basic application is in the filler stock cleaning system. After separation, the Hydrafuge Separator continuously extrudes rejected material at approximately 60 per cent dry by means of a screw type conveyor located at the *bottom* of the unit.

Black-Clawson's Prexy Tours European Mills

C. R. Crawford, Black-Clawson president, recently visited Black-Clawson representatives in Italy, France, Switzerland, Germany, Holland and Belgium. Mr. Crawford will also visit with the principals of the Black-Clawson British subsidiary company; B-C International, Ltd., in London. He hopes to visit mills in Ireland as well as England and Continental Europe, to observe Black-Clawson—Shartle and Dilts equipment.

Hooker Elected President

R. Wolcott Hooker, v.p. in charge of sales of Hooker Electrochemical Co., has been elected president of the Compressed Gas Assn. and has been reelected president of the Chlorine Institute.

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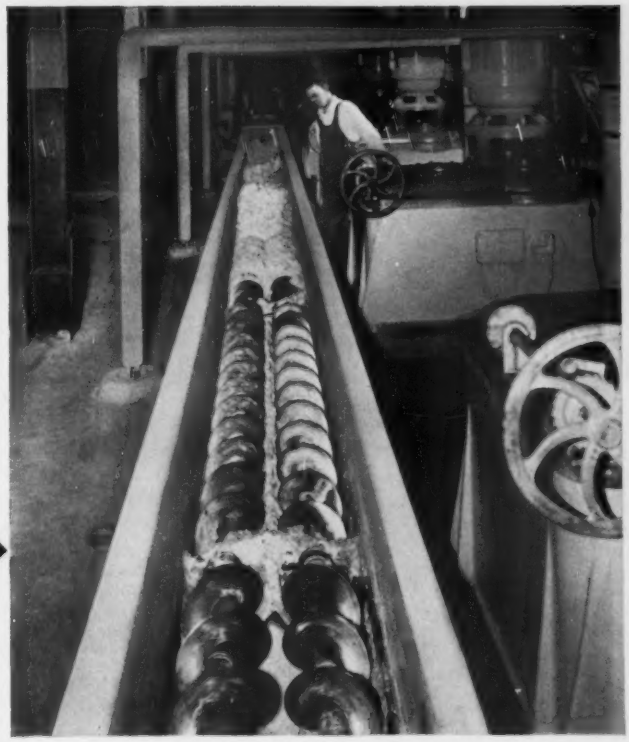
Why LINK-BELT "total engineering" means better screw conveyors for you...

LINK-BELT integrates all components to give you the right screw conveyor for your job

Don't be fooled by the apparent simplicity of a screw conveyor. It *is* simple in design, but there are many important factors that must be considered to give you top performance.

That's why Link-Belt's broad materials handling experience is so important... why Link-Belt Screw Conveyors are first choice on so many demanding jobs. And because Link-Belt makes all types and sizes of components, you get exactly the right screw conveyor for your particular requirements.

It's easy to see why "total engineering" results in top screw conveyor performance. Call the Link-Belt office near you for complete information.

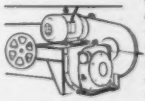


Properly designed Link-Belt Screw Conveyors do an efficient and dependable job in conveying wet pulp from filters to bleach chests.

LINK-BELT designs and builds all components!

TROUGHS—Link-Belt builds flanged, angle flanged, flared, rectangular, dust-seal, jacketed and drop-bottom types in steel or alloy metals. Variety of connections, supports, covers and clamps offers added design flexibility.

TROUGH ENDS—Steel or alloy metal plate or cast trough ends to match all trough shapes, provide required shaft bearing support and alignment. Seal glands to protect bearings, if required.



DRIVES—Link-Belt designs and builds many forms of drives to suit specific conditions—enclosed gear, Electrofluid, P.I.V. variable speed, and chain drives of various types.

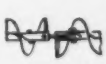
Link-Belt can also supply a full range of flanges, thrusts, covers, saddles and countershaft ends.

SCREWS—Link-Belt makes a complete range of conveyor screws—Helicoid, Sectional Flight, Cut Flight, Ribbon Flight, Paddle type and special

types for such diverse applications as feeding, conveying, mixing, agitating, stirring, blending, etc.

SPOUTS & GATES—Plain discharge spouts can be fixed or detachable. Discharge gates, flat or curved slide, can be hand or rack-and-pinion operated.

HANGERS—Available in a variety of styles and mountings, with various bearing materials, and steel or cast hanger frames.



SHAFTS & COUPLINGS—Conveyor couplings and end shafts are designed for adequate torsional strength and have jig-drilled coupling bolt holes for accurate alignment.

LINK-BELT

SCREW CONVEYORS

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